

# A SYNONYMIC LIST OF THE GENUS *NACADUBA* AND ALLIED GENERA (LEPIDOPTERA: LYCAENIDAE)

By G. E. TITE

## CONTENTS

	<i>Page</i>
INTRODUCTION . . . . .	69
<i>NACADUBA</i> MOORE . . . . .	70
<i>PROSOTAS</i> DRUCE . . . . .	88
<i>PARADUBA</i> BAKER . . . . .	97
<i>IONOLYCE</i> TOXOPEUS . . . . .	100
<i>ERYSICHTON</i> FRUHSTORFER . . . . .	102
<i>CATOPYROPS</i> TOXOPEUS . . . . .	105
<i>PETRELAEA</i> TOXOPEUS . . . . .	109
REFERENCES . . . . .	109
INDEX . . . . .	113

## SYNOPSIS

The species of *Nacaduba* are listed according to their relationships. In particular the grouping of species and subspecies from the Papuan region, hitherto confused, has been corrected, as the result of examination of the type specimens described by Lord Rothschild, Fruhstorfer, and others. Ten new species and nineteen new subspecies are described.

## INTRODUCTION

THE Indo-Malayan representatives of *Nacaduba* have been ably dealt with by Toxopeus, Corbet, and Eliot, so that probably little remains to be discovered about the specific relationships of the races from that region. Study of the material in the British Museum (Natural History), however, reveals a very different situation as regards the more eastern portion of the Indo-Australian region, especially in respect of that from New Guinea, the Bismarck Archipelago, and the Solomon Islands. Investigation of the types shows that most of the insects described as species by the late Lord Rothschild have by various authors been assigned as subspecies to quite unrelated species; this, and the discovery of a number of species new to science, renders the present work desirable. The presence in the B.M. (N.H.) of most of Fruhstorfer's types has facilitated the correct specific grouping of the races he described. Toxopeus has shown (1929) that the genus *Nacaduba* can be conveniently divided into smaller units, and has given these units generic rank; with some modifications this system is followed here, consideration being given to the male genitalic structures and to the slight differences in venation. Dr. Corbet (1938) deprecates the division of *Nacaduba* and gives as one reason the fact that the females of the *berenice* and *nora* groups cannot be separated on differences of vena-

tion. This does not seem to be a conclusive argument, and could be carried to extreme lengths, as was done by Aurivillius when he incorporated into the single genus *Cupido* twenty-four groups, to each of which generic status is generally accorded by other competent systematists. The extent of the anastomosis of veins 11 and 12 of the fore wing has been used by various authors as a generic character ; this is not always reliable, as it can vary considerably in individuals of the same species. During the course of the present work, the following species have been observed to vary in this way : *N. beroe*, *N. hermus*, *N. pactolus* and *N. sinhala*.

It is intended that this paper should be used in conjunction with the works of the authors mentioned above ; it does not aspire to the status of a monograph. Future investigation may prove that some of the listed subspecific names are not well founded, and may become synonyms. Herein, the main consideration has been to group all the published names in correct relation to the species, and the fact that a name is included does not necessarily imply approval of its validity or status. Whenever possible, figures of the male genitalia are given for those species that are not so figured elsewhere. The word (Type !) after a reference indicates that the type is in the B.M. (N.H.) and that it has been examined.

The author wishes to express thanks to Colonel J. N. Eliot who has presented specimens (including types) to the B.M. (N.H.), lent others from his collection, and aided the completion of the work by helpful criticism and suggestions.

### *NACADUBA* Moore

*Nacaduba* Moore, 1881 : 88.

Type species : *Lampides prominens* Moore.

The genus in its present restricted sense forms a reasonably homogeneous group ; although certain species exhibit characters that would seem to split the genus into even smaller sections or subgenera, the great difference in the formation of the penis in the *beroe*, *calauria* and *astarte* groups being a case in point.

#### *Nacaduba sericina* (Felder)

(i) *N. sericina sericina* (Felder)

(Text-figs. 12 and 43)

*Lycaena sericina* Felder, 1865 : 277, pl. 34, figs. 30 and 31, Luzon (Type !).

*Nacaduba smaragdina* Semper, 1890 : 178, pl. 33, fig. 4, Mittel-Luzon.

(ii) *N. sericina thaumus* Fruhstorfer

*Nacaduba sericina thaumus* Fruhstorfer, 1916 : 111, Bazilan and Mindanao.

#### *Nacaduba angusta* (Druce)

(i) *N. angusta kerriana* Distant

*Nacaduba kerriana* Distant, 1886 : 253, Singapore.

(ii) *N. angusta albida* Riley & Godfrey

*Nacaduba angusta f. albida* Riley & Godfrey, 1925 : 141, pl. 3, fig. 2, Siam (Type !).

(iii) *N. angusta honorifice* Fruhstorfer*Nacaduba angusta honorifice* Fruhstorfer, 1916 : 42, Nias.(iv) *N. angusta flumena* Fruhstorfer*Nacaduba angusta flumena* Fruhstorfer, 1916 : 112, W. Java.(v) *N. angusta angusta* (Druce)*Cupido angusta* Druce, 1873 : 349, pl. 32, fig. 9, Borneo (Type!).(vi) *N. angusta thespia* Fruhstorfer*Nacaduba angusta thespia* Fruhstorfer, 1916 : 112, Banguay (Type!).(vii) *N. angusta limbura* Fruhstorfer*Nacaduba angusta limbura* Fruhstorfer, 1916 : 112, S. Philippines.(viii) *N. angusta sangira* Fruhstorfer*Nacaduba angusta sangira* Fruhstorfer, 1916 : 112, Sangir.(ix) *N. angusta azureus* (Röber)*Plebeius azureus* Röber, 1886 : 63, pl. 4, fig. 19, E. Celebes.(x) *N. angusta pamela* Grose-Smith*Nacaduba pamela* Grose-Smith, 1895 : 508, S. Celebes (Type!).*Nacaduba atromarginata* Druce, 1902 : 113, pl. ii, figs. 1 and 2, S. Celebes (Type!).***Nacaduba pactolus* (Felder)**(i) *N. pactolus ceylonica* Fruhstorfer*Nacaduba pactolus ceylonica* Fruhstorfer, 1916 : 114, Ceylon.(ii) *N. pactolus continentalis* Fruhstorfer*Nacaduba pactolus continentalis* Fruhstorfer, 1916 : 114, Sikkim.(iii) *N. pactolus hainani* Bethune-Baker*Nacaduba hainani* Bethune-Baker, 1914 : 125, Formosa.(iv) *N. pactolus andamanica* Fruhstorfer*Nacaduba pactolus andamanica* Fruhstorfer, 1916 : 114, Andamans (Type!).(v) *N. pactolus macrophthalma* (Felder)*Lycaena macrophthalma* Felder, 1862 : 483, Pulu Mihu.*Nacaduba vajuva varia* Evans, 1932 : 241, S. Nicobars (Type!).(vi) *N. pactolus odon* Fruhstorfer*Nacaduba pactolus odon* Fruhstorfer, 1916 : 114, Macromalayana (Type!).(vii) *N. pactolus lycoreia* Fruhstorfer*Nacaduba pactolus lycoreia* Fruhstorfer, 1916 : 115, Java and Micromalayana (Type!).(viii) *N. pactolus cyaniris* (Röber) **comb. n.***Plebeius cyaniris* Röber, 1891 : 315, 1892, pl. 5, fig. 4, Flores.(ix) *N. pactolus neaira* Fruhstorfer*Nacaduba pactolus neaira* Fruhstorfer, 1916 : 114, Philippines.(x) *N. pactolus pactolides* Fruhstorfer*Nacaduba pactolus pactolides* Fruhstorfer, 1916 : 115, Celebes & Banggai.(xi) *N. pactolus pactolus* (Felder)*Lycaena pactolus* Felder, 1860 : 456, Amboina (Type!).(xii) *N. pactolus cela* Waterhouse & Lyell*Nacaduba pactolus cela* Waterhouse & Lyell, 1914 : 94, figs. 850 and 851, Darnley Island.

(xiii) *N. pactolus waigeuensis* (Joicey & Talbot)*Lampides pactolus waigeuensis* Joicey & Talbot, 1917 : 221, Waigeu (Type !).(xiv) *N. pactolus antalcidas* Fruhstorfer*Nacaduba pactolus antalcidas* Fruhstorfer, 1915 : 146, Central Dutch New Guinea.(xv) *N. pactolus raluana* Ribbe*Nacaduba (Lampides) pactolus raluana* Ribbe, 1899 : 231, Neu Pommern, Neu Lauenburg.***Nacaduba pavana*** (Horsfield)

(Text-fig. 4)

(i) *N. pavana singapura* Corbet*Nacaduba pavana singapura* Corbet, 1938 : 134, pl. 1, figs. 24 and 30, Malay Pen. (Type !).(ii) *N. pavana vajuva* Fruhstorfer*Nacaduba pavana vajuva* Fruhstorfer, 1916 : 108, Siam (Type !).(iii) *N. pavana pavana* (Horsfield)*Lycaena pavana* Horsfield, 1828 : 77, Java (Type !).(iv) *N. pavana georgi* Fruhstorfer*Nacaduba pavana georgi* Fruhstorfer, 1916 : 111, Ost-Mindanao.(v) *N. pavana visuna* Fruhstorfer*Nacaduba pavana visuna* Fruhstorfer, 1916 : 110, Celebes (Type !).***Nacaduba russelli* sp. n.**

(Text-figs. 1-3)

Superficially, in both sexes, this recently discovered species is very like *N. pavana singapura*, and in the description that follows, all comparisons are made with that insect. The male was brought to notice by Colonel J. N. Eliot and its captor Major A. Bedford Russell. A search in the B.M. (N.H.) has produced two specimens which, from external characters, are almost certainly females of the species.

The male upperside is purple with a slight gloss in certain lights, altogether more opaque, and with a much wider blackish margin on all wings. In the female, the blue basal areas of all wings are blue-lavender with a shining blue gloss by refraction ; this is in distinct contrast to the pale grey-green blue of female *singapura*. In both sexes beneath, as in *singapura*, there are no basal markings on the fore wing, and the banding consists of two parallel dark lines with a much lighter area between them. The tornal black spot on the hind wing is large ; its enclosing orange lunule is deeper in colour and more extensive, spreading over veins 2 and 3 and well into the adjoining areas. The submarginal spots are lozenge shaped, whereas, those of *singapura* are dash-like, and are surrounded by a much wider white area, giving the wing margins of that species a much neater appearance. Verification of the identity of the male is furnished by the unique formation of the clasper ; this is of the same general shape as that of *N. kurava*, but the simple turned over apical portion, to be seen in that species, is replaced by a broad spatulate structure, heavily armed with some seven or eight inwardly directed quill-like points of varying lengths. A few scattered smaller points are present around the bases of the larger ones, especially at the extreme apex.

Holotype ♂, MALAYA : Upper Gombak River, Ulu Gombak, 14.vi.1959 (*Major A. Bedford Russell*). B.M. Type No. Rh. 16616.

Allotype ♀, SINGAPORE : Nee Soon, 22.xii.1938 (*J. N. Eliot*). B.M. Type No. Rh. 16617.

Paratypes. As holotype, 28.vi.1959, 1 ♂ ; MALAYA : Penang Hill (*Adams*), 1 ♀.

***Nacaduba hermus* (Felder)**(i) *N. hermus sidoma* Fruhstorfer*Nacaduba pavana nabo f. sidoma* Fruhstorfer, 1916 : 108, S. India (Type !).(ii) *N. hermus nabo* Fruhstorfer*Nacaduba pavana nabo* Fruhstorfer, 1916 : 108, Assam (Type !).(iii) *N. hermus vicania* Corbet*Nacaduba hermus major* Evans, 1932 : 240, S. Nicobars (Type !), (nom. preocc. by *N. berenice major* Rothschild, 1915 : 139).*Nacaduba hermus vicania* Corbet, 1938 : 133, Nicobars (Type !).(iv) *N. hermus swatipa* Corbet*Nacaduba hermus swatipa* Corbet, 1938 : 132, pl. 1, figs. 27 and 35, Malay Pen. (Type !).(v) *N. hermus valvidens* Toxopeus*Nacaduba nabo valvidens* Toxopeus, 1929 : 233, W. Java.(vi) *N. hermus minja* Fruhstorfer*Nacaduba pavana minja* Fruhstorfer, 1916 : 109, Lombok (Type !).(vii) *N. hermus tairea* Fruhstorfer*Nacaduba pavana tairea* Fruhstorfer, 1916 : 110, Philippines (Type !).(viii) *N. hermus hermus* (Felder)*Lycaena hermus* Felder, 1860 : 457, Amboina (Type !).***Nacaduba subperusia* (Snellen)**(i) *N. subperusia lysa* Fruhstorfer*Nacaduba pavana lysa* Fruhstorfer, 1916 : 109, Sumatra (Type !).*Nacaduba intricata* Corbet, 1938 : 131, pl. 1, fig. 28, Malay Pen. (Type !), ♂ nec. ♀. **syn. n.**(ii) *N. subperusia nadia* Eliot*Nacaduba subperusia nadia* Eliot, 1955 : 155, Nicobar Is. (Type !).(iii) *N. subperusia subperusia* (Snellen)*Lycaena subperusia* Snellen, 1896 : 93, Java.(iv) *N. subperusia paska* Eliot*Nacaduba subperusia paska* Eliot, 1955 : 156, Sula Besi (Type !).(v) *N. subperusia martha* Eliot*Nacaduba subperusia martha* Eliot, 1955 : 156, New Guinea (Type !).***Nacaduba sanaya* Fruhstorfer**(i) *N. sanaya elioti* Corbet*Nacaduba sanaya elioti* Corbet, 1938 : 133, pl. 1, figs. 25 and 32, Malay Pen. (Type !).*Nacaduba sanaya thalia* Corbet, 1938 : 134, Borneo (Type !).*Nacaduba sanaya elioti* (= *thalia* Corbet), Eliot, 1955 : 157.(ii) *N. sanaya sanaya* Fruhstorfer*Nacaduba pavana sanaya* Fruhstorfer, 1916 : 109, Nias (Type !).(iii) *N. sanaya naevia* Toxopeus*Nacaduba sanaya naevia* Toxopeus, 1929 : 232, W. Java.(iv) *N. sanaya metallica* Fruhstorfer*Nacaduba pavana metallica* Fruhstorfer, 1916 : 110, Celebes (Type !).

*Nacaduba ollyetti* Corbet

*Nacaduba ollyetti* Corbet, 1947 : 1, Ceylon (Type !).

*Nacaduba asaga* Fruhstorfer

(Text-fig. 7)

*Nacaduba pavana asaga* Fruhstorfer, 1916 : 109, Borneo (Type !).

*N. asaga* has hitherto been treated as conspecific with *N. pendleburyi*, and *N. solta*; from both it is at once distinguished by the more obtuse apex of the fore wing, and by the steel-grey tone of the purple colour on the male upperside; it is without the wide dark marginal band of *pendleburyi*. The genitalia are very similar to those of the two species mentioned above, but the clasper has a markedly concave dorsal edge.

Material in B.M. (N.H.). BORNEO : Sintang (*Dr. Martin*), 1 ♂ (holotype); Lawas (*A. Everett*), 2 ♂.

*Nacaduba pendleburyi* Corbet

In all races, the male is purple-blue above, and the fore wing is margined with black. The dorsal edge of the clasper is only slightly concave, and the turned over portion of the apex is short and blunt.

(i) *N. pendleburyi pendleburyi* Corbet **stat. n.**

(Text-figs. 5 and 8)

*Nacaduba asaga pendleburyi*, Corbet, 1938 : 129, pl. 1, figs. 26 and 29, Pahang : Fraser's Hill (Type !).

Material in B.M. (N.H.). MALAYA : Pahang, Fraser's Hill, 6 ♂, 1 ♀ (including holotype and allotype); Selangor, Bukit Kutu, 1 ♂, 1 ♀; Johore, Lombong, 1 ♂, Singapore, 1 ♀; Malacca, 1 ♀. In Col. Eliot's Collection. MALAYA : Pahang, Fraser's Hill, 3 ♂; Johore, Panti, 1 ♂; Singapore, 1 ♀.

(ii) *N. pendleburyi penangensis* **ssp. n.**

(Text-fig. 6)

On the upperside, the male can be distinguished from the preceding race by the much heavier dark costal and distal margins of the fore wing; on the hind wing above, by the presence of a complete series of submarginal spots and lunules. The female does not differ above from that sex of the nominate race, but is recognizable beneath by the position of the median striae, which are placed much nearer to the distal margin in both sexes.

Holotype ♂, MALAYA : Penang Hill (*M. J. V. Miller*), B.M. Type No. Rh. 16562.

Allotype ♀, as holotype, B.M. Type No. Rh. 16563.

Other material. As holotype 8 ♂; Penang (*Evans*), 1 ♂.

(ii) *N. pendleburyi latemarginata* **ssp. n.**

The fore wing is broadly margined above like that of *penangensis*, but the hind wing is entirely without the submarginal markings so evident in that subspecies, even the tornal spot in cellule 2 is only rendered visible by transparency from the under surface. The median double band of white striae on the fore wing beneath is placed as in *penangensis*.

Holotype ♂, RHIO ARCHIPELAGO : Karimon Is., xii.1937 (*J. N. Eliot*), B.M. Type No. Rh. 16564.

Paratypes (in Col. Eliot's Collection). Same data, 3 ♂.

*Nacaduba solta* Eliot stat. n.

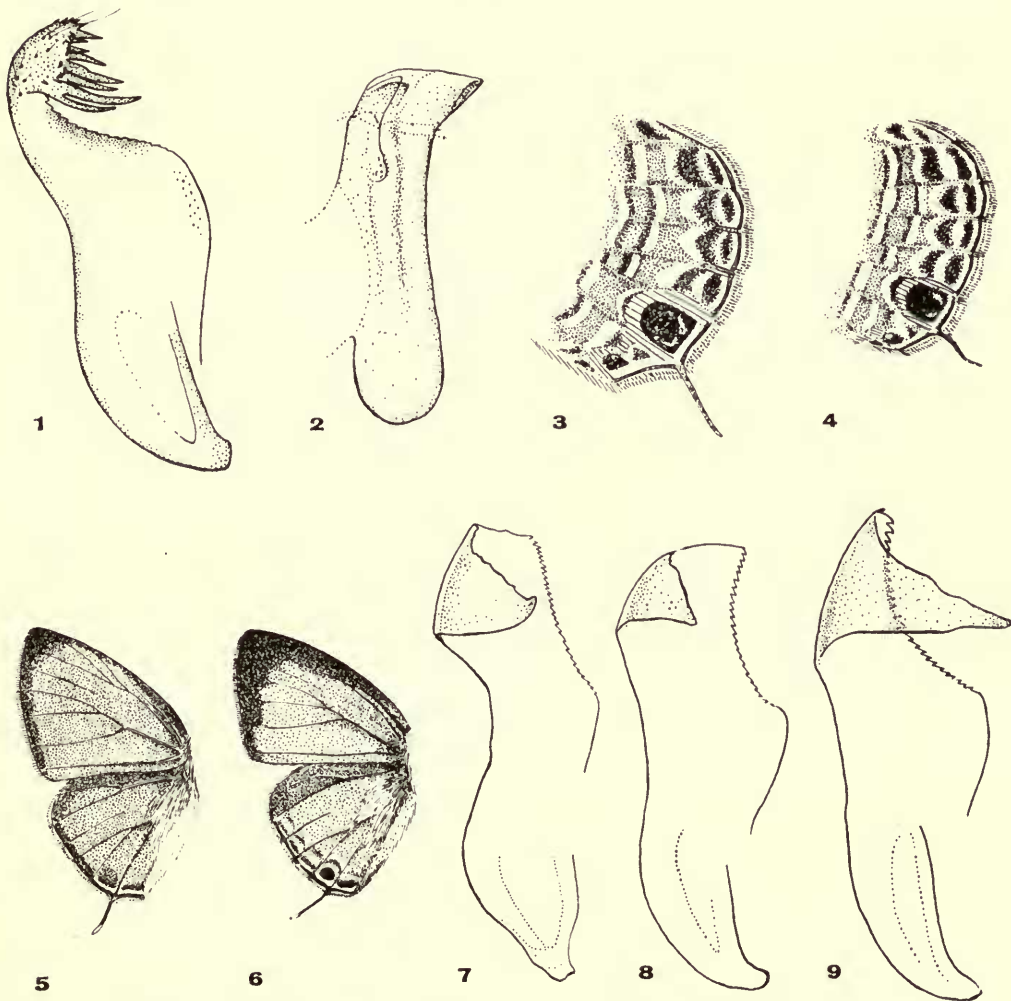
(Text-fig. 9)

*Nacaduba intricata* Corbet, 1938 : 131, pl. 1, fig. 34, Pahang (Type !), ♀ nec. ♂, **syn. n.**

*Nacaduba asaga solta* Eliot, 1955 : 157, Sumatra (Type !).

*Nacaduba pendleburyi* (c) Eliot, 1955 : 157, Malaya.

The male differs from that of *pendleburyi* by the bronze tinge of the purple ground



FIGS. 1-3. *Nacaduba russelli* : 1, clasper ; 2, aedeagus ; 3, portion of hind wing.

FIG. 4. *N. pavana* : portion of hind wing.

FIGS. 5-6. *Nacaduba pendleburyi* upperside ; 5, ♂ *pendleburyi* ; 6, ♂ *penangensis*.

FIGS. 7-9. ♂ clasper : 7, *Nacaduba asaga* ; 8, *N. pendleburyi pendleburyi* ; 9, *N. solta*.

colour, and by the linear black margins on all wings. Below, both sexes differ by the much straighter upper portion of the median band on the fore wing. The turned-over apex of the male clasper is much longer and more pointed than is that of either of the allied species.

Col. Eliot has made the interesting discovery that whereas both *asaga* and *pendleburyi* males are furnished with androconial scales, no such structures can be found in the males of *N. solta*, even in really fresh specimens.

Material in B.M. (N.H.). SUMATRA: Siboga, ii.1903, 3 ♂ (including holotype); Sumatra (Hewitson Coll.), 1 ♀. MALAYA: Pahang, iii.1921 (*Evans*), 1 ♀ (allotype of *intricata* Corbet); Pahang, Raub, 18.v.1937 (*J. N. Eliot*), 1 ♂; Perak, Kedah, xii.1915, 1 ♀; Selangor, Bukit Kutu, 17.vi.1931 (*D. M. Pendlebury*), 1 ♀. B. N. BORNEO: Mt. Marapok (*Adams Coll.*), 2 ♂.

### *Nacaduba astarte* (Butler)

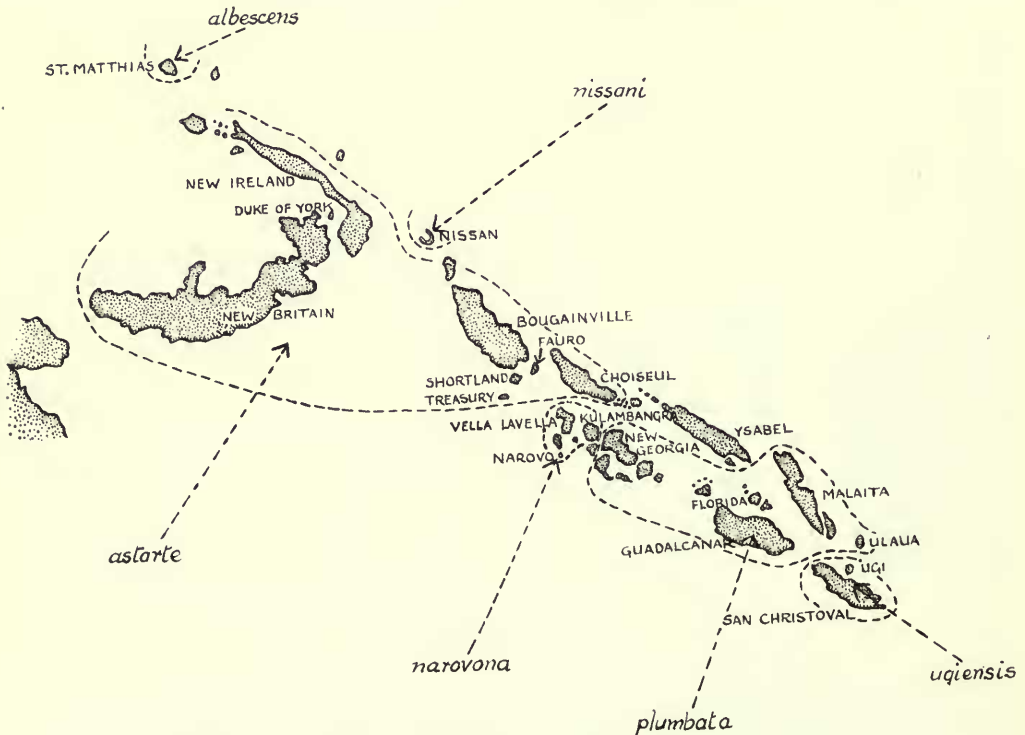
(see map)

#### (i) *N. astarte astarte* (Butler)

*Lampides astarte* Butler, 1882: 150, New Britain (Type!).

*Nacaduba astarte* Druce, 1891: 359, pl. 32, fig. 10, Solomons.

This race is represented in the B.M. (N.H.) by examples from New Britain, New Ireland, Duke of York I., Bougainville, Alu, Tugela, Choiseul, and Fauro.



The geographical distribution of the races of *Nacaduba astarte*.



(ii) *N. astarte albescens* **ssp. n.**

The male differs above from the nominate race by its lighter colour; it is also smaller, having a fore wing length of only 11–12 mm. The female is altogether brighter, the blue area of the fore wing being shining sky-blue. On the hind wing, the tint is similar, but rather obscured by blackish scaling; the whitish band between the blue area and the submarginal lunules—though individually variable in width—is always whiter and more prominent. All five examples exhibit a dusky dual spot in areas 4 and 5, just beyond the end of the hind wing cell; this evidently represents the “oblong blackish spot” mentioned by Butler in his description of *astarte*. On the underside in both sexes, the basal and median markings are of a decidedly greyish tone, the edges of the median band being sharply outlined with blackish; the inner edge in turn being bordered with white. Beyond the band, the wing is clear white, only broken by the sharply delineated black submarginal crescents and spots, and by the marginal line.

Holotype ♂, BISMARCK ARCHIPELAGO: St. Matthias I. (1° 40' S., 149° 40' E.), vii. 1923 (*A. F. Eichhorn*), B.M. Type No. Rh. 16565.

Allotype ♀, as holotype, vi. 1923, B.M. Type No. Rh. 16566.

Other material. As allotype, 1 ♂, 4 ♀.

(iii) *N. astarte nissani* **ssp. n.**

Closely allied to the preceding race—both sexes on both surfaces showing considerable resemblance to it—but distinguishable in the following characters: the male is larger, and does not differ from that sex of the nominate subspecies. In the female, the sky-blue areas are somewhat clouded by dark scaling, and the dusky margins of the fore wing are so reduced that the submarginal series of lunules and spots is clearly visible. Beneath, the ground colour is earth-brown, of a lighter tint than that of *a. astarte*; on the fore wings, the submarginal lunules appear as a series of isolated crescents on a white ground, and the lower portion of the median band on the hind wings is less sinuous.

Holotype ♂, SOLOMON ISLANDS: Nissan I. (4° 30' S., 154° 20' E.), viii–ix. 1924 (*A. F. Eichhorn*), B.M. Type No. Rh. 16567.

Allotype ♀, same data, B. M. Type No. Rh. 16568.

Other material. Same data, 3 ♂, 5 ♀.

(iv) *N. astarte plumbata* Druce **stat. n.**

(Text-fig. 10)

*Nacaduba plumbata* Druce, 1891: 359, pl. 31, figs. 3–4.

Examples from Guadalcanar, Malaita and Ulaua show no indication on the underside of the white area beyond the median band, so characteristic of the races so far dealt with; a series from Florida I. and Tulagi exhibits a range of forms that are, however, transitional in this respect.

(v) *N. astarte narovona* Grose Smith **stat. n.**

*Nacaduba narovona* Grose Smith, 1897: 518, Narovo (Type!).

As this insect is of restricted habitat, and the male genitalia offer no distinctive characters, it is best treated as a subspecies of *astarte*. It can be recognized on the underside by the regular curved median band on the fore wing, and by the angled but not sinuous median band on the hind wing. Besides the type locality, the subspecies is represented in the B.M. (N.H.), by females only, from the neighbouring islands of Vella Lavella, Guizo and Kulambranga.

*Nacaduba ugiensis* Druce

*Nacaduba ugiensis* Druce, 1891 : 360, pl. 31, fig. 5, Ugi (Type !).

Only known in the female, the true affinities of the insect can only be ascertained when examples of the other sex become available. It may possibly prove to be the representative of *astarte* on Ugi and San Christobal.

*Nacaduba berenice* (Herrich-Schaeffer)

(i) *N. berenice ormistoni* Toxopeus

*Nacaduba berenice ormistoni* Toxopeus, 1927 : 434, Ceylon.

(ii) *N. berenice plumbeomicans* (Wood-Mason & de Niceville)

*Lampides plumbeomicans* Wood-Mason & de Niceville, 1880 : 231, Andamans.

(iii) *N. berenice nicobaricus* (Wood-Mason & de Niceville)

*Lampides plumbeomicans nicobaricus* Wood-Mason & de Niceville, 1881 : 234, Katschal I.

(iv) *N. berenice aphyia* Fruhstorfer

*Nacaduba berenice aphyia* Fruhstorfer, 1916 : 127, Siam (Type !).

(v) *N. berenice icena* Fruhstorfer

*Nacaduba berenice icena* Fruhstorfer, 1916 : 127, Macromalayana (Type !).

(vi) *N. berenice aphyana* Fruhstorfer

*Nacaduba berenice aphyana* Fruhstorfer, 1916 : 127, Nias (Type !).

(vii) *N. berenice rapara* Fruhstorfer

*Nacaduba berenice rapara* Fruhstorfer, 1916 : 128, Bawean.

(viii) *N. berenice zyrthis* Fruhstorfer

*Nacaduba berenice zyrthis* Fruhstorfer, 1916 : 128, Flores, Sumba, and Tana Djampea.

(ix) *N. berenice akaba* (Druce) **comb. n.**

*Cupido akaba* Druce, 1873 : 350, Borneo (Type !).

(x) *N. berenice zygida* Fruhstorfer

*Nacaduba berenice zygida* Fruhstorfer, 1916 : 128, Philippines (Type !).

(xi) *N. berenice maputi* (Semper) **comb. n.**

*Chilades maputi* Semper, 1889 : 170, pl. 32, fig. 26, E. Mindanao.

(xii) *N. berenice eliana* Fruhstorfer

*Nacaduba berenice eliana* Fruhstorfer, 1916 : 128, Celebes (Type !).

(xiii) *N. berenice carnaniania* Fruhstorfer

*Nacaduba berenice carnaniania* Fruhstorfer, 1916 : 129, Obi (Type !).

(xiv) *N. berenice illuensis* (Röber)

*Plebeius illuensis* Röber, 1886 : 64, pl. 4, figs. 30-31, Ceram and Aru.

(xv) *N. berenice dobbensis* (Röber)

*Plebeius dobbensis* Röber, 1886 : 65, pl. 4, fig. 34 ; pl. 5, fig. 19, Aru.

(xvi) *N. berenice apira* Fruhstorfer

*Nacaduba berenice apira* Fruhstorfer, 1916 : 129, Bismarcks.

(xvii) *N. berenice korene* Druce

*Nacaduba korene* Druce, 1891 : 361, pl. 31, fig. 8, Aola, Guadalcanar (Type !).

(xviii) *N. berenice berenice* (Herrich-Schaeffer)

*Lycaena berenice* Herrich-Schaeffer, 1869 : 74, Rockhampton.

*Nacaduba sinhala* Ormiston

*Nacaduba berenice ceylonica* Fruhstorfer 1916 : 127, Ceylon (nom preocc. by *N. pactolus ceylonica* Fruhstorfer, 1916).

*Nacaduba sinhala* Ormiston, 1924 : 53 and addenda, Ceylon.

*Nacaduba cajetani* nom. n.

(Pl. 1, fig. 9. Text-figs. 13 and 36)

*Nacaduba felderi* Rothschild, 1915 : 139, Centr. Ceram (Type!).

*Prosotas felderi* (Rothschild) Toxopeus, 1930 : 100, nec. *Prosotas felderi* (Murray) Toxopeus, 1930 : 100.

*Prosotas parrhasius rothschildi* Toxopeus, 1930 : 100, nec. *Nacaduba kurava rothschildi* Toxopeus, 1927 : 430.

Toxopeus substituted the name *rothschildi* for *N. felderi* Rothschild on the grounds that the latter was a homonym of *Lycaena felderi* Murray; he quite wrongly supposed *felderi* Rothschild to be the Buru and Ceram race of *Prosotas nora* Felder, which species he called *Prosotas parrhasius* (Fabricius). An elucidation of this problem was obtained from the permanent staff of the International Commission of Zoological Nomenclature, and the above synonymy has been compiled in accordance with this.

The species can be recognized by the presence of a yellow lunule in each of cellules 1, 2 and 3, of the hind wing beneath, a state of affairs not found in any other species in the genus. Genitally it is very closely allied to *berenice*, but the clasper is shorter and stouter, with fewer but larger teeth on the distal margin. In the B.M. (N.H.) it is represented by specimens from Dutch New Guinea, the islands in Geelvink Bay, Obi, Batchian, Amboina and Ceram.

*Nacaduba novaehebridensis* Druce

(i) *N. novaehebridensis novaehebridensis* Druce **stat. n.**

*Nacaduba novaehebridensis* Druce, 1892 : 438, pl. 27, figs. 7 and 8, Pentecost I. (Type!).

In this and the other two races here discussed, the spots composing the median band on the fore wing underside diminish in size from the hind margin to the costa, whereas those of *berenice* are of approximately even width throughout the band. Judging from the material in the B.M. (N.H.), the species is rare, but occurs sparsely over quite a wide area, extending from Ceram in the West to the Solomons and New Hebrides in the East. There are no specimens from the New Guinea mainland, but it may well be found there eventually, as a link between Ceram and Vulcan Island would seem probable. The genitalia differ from those of *berenice* in possessing a distinctly hooked apex to the clasper, and a more prolonged and pointed apex to the aedeagus.

(ii) *N. novaehebridensis vulcana* **spp. n.**

(Pl. 1, fig. 4. Text-figs. 14 and 35)

Closely resembles *N. berenice*, only differing as follows: The male upperside on all wings possesses a bloom like that of a plum, which in certain lights glistens with a greenish reflection. The blue areas on the female fore wing are more restricted, and merge more gradually into the dark distal area. Beneath in both sexes, the colour on all wings is dull brown, in contrast

to the smooth and slightly shiny surface of *berenice*; the pale striae enclosing the spots are more yellowish white. The markings are large, being arranged in the same general pattern as those of the nominate race, but whereas in the latter, the spotting is only slightly darker than the very pale ground colour, that of *vulcana* contrasts strongly, even on the darker ground.

Holotype ♂, NORTH NEW GUINEA: Vulcan Island (3° 45' S., 145° 30' E.), xi. i. 1913-14 (*Meek*), B.M. Type No. Rh. 16569.

Allotype ♀, D'ENTRECASTEAUX ISLANDS: Fergusson Island, ix-x. 1914 (*Meek*), B.M. Type No. Rh. 16570.

Distribution. Ceram, Amboina, Aru, Vulcan, Fergusson, Goodenough and Bismarck Archipelago. (A single ♂ labelled "Alu I., (*Swinhoe Coll.*)" is probably so labelled in error.)

(iii) *N. novaehebridensis guizoensis* ssp. n.

(Pl. 1, fig. 5)

Smaller than the preceding, but otherwise identical on the upper surface of both sexes. Beneath the ground colour is darker; all the light striae confining the spots are whiter, and those adjoining the submarginal lunules show a strong tendency to merge with those marginating the outer edge of the median band, thus producing a whitish distal band in the majority of individuals.

Holotype ♂, SOLOMON ISLANDS: Guizo Island, xi. 1903 (*A. S. Meek*), B.M. Type No. Rh. 16571.

Allotype ♀, as holotype, B.M. Type No. Rh. 16572.

Distribution. Choiseul, Isabel and Florida Island.

*Nacaduba sumbawa* sp. n.

(Text-fig. 27)

Like *berenice* in appearance, but on the male upperside shining purple, without any trace of blue; the marginal dark line is hair-like, and the fringes are fuscous. The underside is of a softer more brownish shade, with the bands of spots darker, and without a definite pale stripe running through them; the median spot in cellule 4 is placed obliquely with its lower extremity jutting outwards in the direction of the distal margin. All the whitish irrorations are indistinct. The female fore wing is shining sky-blue in the lower half of the cell, and the basal portions of cellules 1 to 4 becoming gradually lighter before merging with the wide costal and distal margins. At approximately 2 mm. from the distal margin in areas 1 to 4, there is a series of four indistinct pale interneural spots. The hind wing does not differ from that of *berenice*. Beneath like the male, but the submarginal series of markings are not noticeably darker than the basal and median spots. The male clasper is oval and concave, and the undulate distal margin is furnished with a prominent point at the ventral angle. In general structure, the aedeagus is like that of *beroe*, but the ventral terminal appendages are triangular in shape, their broad bases being almost half as wide as the length of the appendages.

Holotype ♂, "Sumbawa, ix, 1891 (W. Doherty)", B.M. Type No. Rh. 16614.

Allotype ♀, same data, B.M. type No. Rh. 16615.

*Nacaduba kurava* (Moore)

(i) *N. kurava prominens* (Moore)

*Lampides prominens* Moore, 1877: 341, Ceylon (Type!).

(ii) *N. kurava canaraica* Toxopeus*Nacaduba kurava canaraica* Toxopeus, 1927 : 424, Karwar.*Nacaduba kurava canaraica f. belli* Toxopeus, 1927 : 424, Coorg.(iii) *N. kurava euplea* Fruhstorfer*Nacaduba perusia euplea* Fruhstorfer, 1916 : 132, Sikkim (Type !).*Nacaduba kurava euplea f. evansi* Toxopeus, 1927 : 424, E. Dawnas (Type !).*Nacaduba kurava ataranica* Toxopeus, 1927 : 425, Ataran Valley (Type !).(iv) *N. kurava septentrionalis* Shirôzu*Nacaduba kurava septentrionalis* Shirôzu, 1952 : 22, Japan.(v) *N. kurava therasia* Fruhstorfer*Nacaduba perusia therasia* Fruhstorfer, 1916 : 133, Formosa (Type !).(vi) *N. kurava sambalanga* **nom. n.***Nacaduba kurava nicobarica* Toxopeus, 1927 : 425, Nicobars, nec. *Lampides plumbeomicans nicobaricus*, Wood-Mason & de Niceville, 1881 : 234 = *Nacaduba berenice nicobaricus* Fruhstorfer, 1916 : 127.(vii) *N. kurava nemana* Fruhstorfer*Nacaduba perusia nemana* Fruhstorfer, 1916 : 134, Macromalayana (Type !).(viii) *N. kurava mentawica* Riley*Nacaduba kurava mentawica* Riley, 1944 : 259, pl. 1, fig. 10, Sipora.(ix) *N. kurava niasica* Toxopeus*Nacaduba kurava niasica* Toxopeus, 1927 : 426, Nias.(x) *N. kurava kurava* (Moore)*Lycaena atratus* Cramer ? ; Horsfield, 1828 : 78, nec. *Papilio aratus* Cramer, 1782, *Pap. Exot.* 4 : pl. 365, figs. A and B.*Lycaena aratus* Moore, 1857 : 22.*Lycaena kurava* Moore, 1857 : 22, Java (Type !).*Nacaduba kurava* Toxopeus, 1927 : 423-432.*Nacaduba berenice isana* Fruhstorfer, 1916 : 128, W. Java (Type !), **syn. n.***Nacaduba perusia agorda* Fruhstorfer, 1916 : 134, Java (Type !).(xi) *N. kurava astapa* Fruhstorfer*Nacaduba perusia astapa* Fruhstorfer, 1916 : 134, Bali (Type !).(xii) *N. kurava baweana* Fruhstorfer*Nacaduba perusia baweana* Fruhstorfer, 1916 : 134, Bawean (Type !).(xiii) *N. kurava laurina* Fruhstorfer*Nacaduba perusia laurina* Fruhstorfer, 1916 : 135, Lombok (Type !).(xiv) *N. kurava laura* Doherty*Nacaduba laura* Doherty, 1891 : 182, Sumba.(xv) *N. kurava cerbara* Fruhstorfer*Nacaduba perusia cerbara* Fruhstorfer, 1916 : 135, Key Is.(xvi) *N. kurava parma* Waterhouse & Lyell*Nacaduba perusia parma* Waterhouse & Lyell, 1914 : 95, figs. 290-293, Cape York.*Nacaduba perusia syrius* Fruhstorfer, 1916 : 136, Cairns.(xvii) *N. kurava felsina* Waterhouse & Lyell **stat. n.***Nacaduba perusia felsina* Waterhouse & Lyell, 1914 : 96, Darwin.

(xviii) *N. kurava perusia* (Felder)

*Lycaena perusia* Felder, 1860 : 458, Amboina (Type !).

*Lycaena niconia* Felder, 1860 : 458, Amboina (Type !).

(xix) *N. kurava bandana* (Swinhoe) **comb. n.**

*Eusaspa bandana* Swinhoe, 1916 : 210, Banda (Type !).

(xx) *N. kurava albofasciata* (Röber)

*Plebeius albofasciatus* Röber, 1886 : 65, pl. 4, figs. 21, Aru.

(xxi) *N. kurava cyaneira* Fruhstorfer

*Nacaduba perusia cyaneira* Fruhstorfer, 1916 : 136, New Guinea.

(xxii) *N. kurava lydia* Fruhstorfer

(Text-fig. 19)

*Nacaduba perusia lydia* Fruhstorfer, 1916 : 136, Louisiades.

(xxiii) *N. kurava pacifica* Toxopeus

*Nacaduba kurava pacifica* Toxopeus, 1927 : 431, Goodenough I. (Type !).

(xxiv) *N. kurava rothschildi* Toxopeus

*Nacaduba kurava rothschildi* Toxopeus, 1927 : 430, St. Aignan (Type !).

(xxv) *N. kurava ariitia* Fruhstorfer

*Nacaduba perusia ariitia* Fruhstorfer, 1916 : 137, Bismarcks.

(xxvi) *N. kurava euresetes* Druce **stat. n.**

*Nacaduba euresetes* Druce, 1891 : 360, pl. 31, figs. 6-7, Aola (Type !).

### *Nacaduba mallicollo* Druce

(i) *N. mallicollo mallicollo* Druce **stat. n.**

(Text-fig. 24)

*Nacaduba mallicollo* Druce, 1892 : 439, New Hebrides (Type !).

Although the original description commences with the male symbol, Druce actually described and figured the female. He followed the description with the casual remark, "The male of this insect in the British Museum is a uniform violaceous blue, with narrow linear brown borders." This specimen is still in the B.M. (N.H.), and the author was quite correct in supposing it to belong to *mallicollo*. In appearance it is very like those forms of *kurava* that do not exhibit a white band on the underside, but the submarginal lunules are large, dark, and each shaped like a capital D, the convex side being always directed outwardly. The male genitalia are of the same general pattern as those of *kurava*, but the claspers are shorter with only seven or eight teeth on their distal edge; the hooked apex is much compressed, and is produced to an inwardly directed sharp point.

The material in the B.M. (N.H.) is as follows. NEW HEBRIDES: Mallicollo I. (*Woodford*), 4 ♀; Tanna, 23.iv.1875, 1 ♂, 1 ♀; Iles Vati, Mallicollo, et Santo, 1914 (*J. Kowalski*), 1 ♀.

(ii) *N. mallicollo markira* **ssp. n.**

(Pl. 1, figs. 1-2)

The male above is purple with a slaty tinge, and all the wings are margined by a definite black line. On the hind wing, this is bordered inwardly by white interneural streaks which

become progressively finer as they approach the apex; the submarginal lunules are visible mainly by transparency. Beneath, the white banding is very wide, the submarginal markings are larger and darker, and the median band of spots approaches much nearer to the margin than in the nominate race. The hind wing tornal spot is large. The female has an almost white ground colour on all wings beneath; on this ground, the spotting is represented in outline only by a series of pale brown parallel lines. The white areas above are more extended, and less heavily overlaid with blue, than in the New Hebridean female. Length of fore wing: ♂ 14 mm., ♀ 12 mm.

Holotype ♂, SOLOMON ISLANDS: S. Christoval, Markira Harbour, 1-9.v.1908 (*A. S. Meek*), B.M. Type No. Rh. 16573.

Allotype ♀, as holotype, B.M. Type No. Rh. 16574.

Other material. SOLOMON ISLANDS: as holotype, 1 ♀; Vella Lavella, ii.1908 (*A. S. Meek*), 1 ♂; St. Anna (*Woodford*), 1 ♀.

(iii) *N. mallicollo biakana* **ssp. n.**

The male is larger than that of the foregoing, the fore wing attaining a length of 17 mm. In colour it is deep purple on all wings, and it shows only the slightest indication of a thread-like marginal line. On the underside, the white banding and the submarginal lunules are like those of the nominate race.

Holotype ♂, SCHOUTEN ISLANDS: Biak, vi.1914 (*A., C., and F. Pratt*) B.M. Type No. Rh. 16575.

*Nacaduba mioswara* **sp. n.**

(Pl. 1, fig. 3. Text-figs. 11 and 44)

All wings above are smoky purple with a linear dark margin, this is bordered inwardly on the hind wing by a whitish line, which is wide at the tornus but narrows as it approaches the apex. The tornal spot in area 2 is in some examples joined by spots in areas 1 and 3. On the underside, the discal spotting is scarcely darker than the grey-brown ground, but it is made quite evident by the fine but clear white reticulations; all the submarginal markings are decidedly darker grey-brown, and the spots in areas 1 and 2 are black with some metallic scaling, and crowned with golden yellow. The male genitalia provide the surest means of identification; the clasper has an excised and irregular distal margin, and a produced hood-like apical portion with three inwardly directed points. The aedeagus is short and stout and terminates ventrally with a rather blunt point.

Holotype ♂, NORTH NEW GUINEA: Geelvink Bay, Mioswar, x.1909 (*C. and F. Pratt*), B.M. Type No. Rh. 16576.

Other material. As holotype, ix-x.1909, 12 ♂; BISMARCK ARCHIPELAGO: New Hanover, ii-iii.1897 (*Webster*), 1 ♂; New Hanover, ii.1923 (*A. S. Meek*), 1 ♂.

*Nacaduba lucana* **sp. n.**

(Pl. 1, figs. 6, 7 and 8. Text-figs. 20 and 31)

The male upperside is violaceous blue with linear dark margins on all wings, and indications of submarginal black spots in areas 1 and 2 of the hind wings. On all wings in the female, the basal portions are shining blue—similar in tint to that of the male *Polyommatus eros*; the costa, the upper half of the discoidal cell, the apex, and the distal parts of areas 1 to 3, on the fore wing are fuscous; the blue area on the hind wing is restricted to the cell and the basal portions of areas 1 to 3, and gradually merges with the fuscous remainder of the wing; all the submarginal markings are outlined with chalky white. Beneath the ground colour is earth-

brown in both sexes, the discal and basal spots being formed by pairs of parallel, externally white margined, dark lines, the intervals between these lines being of a lighter shade than the ground. The submarginal markings are blackish-brown sharply margined with white, and the hind wing black tornal spot is completely encircled with golden-yellow, even on its distal edge; this peculiarity occurs throughout the series, and has not been observed in any other species in the genus. The male clasper is produced apically to form a prong-like structure, with two inwardly directed points on its ventral edge; a ventral view of the claspers creates an impression of the head structure of the Stag Beetle (*Lucanus cervus*). The aedeagus is large as compared with the clasper; it widens progressively from the base, and terminates ventrally with a pair of projecting pointed appendages.

Holotype ♂, BISMARCK ARCHIPELAGO: Witu (or French Is.) (5° 0' S., 149° 15' E.), vi. 1925 (*A. F. Eichhorn*), B.M. Type No. Rh. 16577.

Allotype ♀, as holotype, B.M. Type No. Rh. 16578.

Other material. As holotype, 8 ♂, 9 ♀; New Hanover, ii. 1923 (*A. S. Meek*), 1 ♂.

***Nacaduba beroe* (Felder)**

(i) *N. beroe minima* Toxopeus

*Nacaduba beroe minima* Toxopeus, 1927: 433, Kandy.

(ii) *N. beroe gythion* Fruhstorfer

*Nacaduba atrata gythion* Fruhstorfer, 1916: 131, Assam (Type!).

(iii) *N. beroe asakusa* Fruhstorfer

*Nacaduba atrata asakusa* Fruhstorfer, 1916: 132, Formosa (Type!).

(iv) *N. beroe neon* Fruhstorfer

*Nacaduba atrata neon* Fruhstorfer, 1916: 131, NE. Sumatra (Type!).

(v) *N. beroe jedja* Fruhstorfer

*Nacaduba atrata jedja* Fruhstorfer, 1916: 131, Nias (Type!).

(vi) *N. beroe javana* Toxopeus

*Nacaduba beroe javana* Toxopeus, 1927: 433, W. Java.

(vii) *N. beroe bimaculosa* Toxopeus

*Nacaduba beroe bimaculosa* Toxopeus, 1929: 234, E. Java.

(viii) *N. beroe beroe* (Felder)

(Text-figs. 16 and 30)

*Lycaena beroe* Felder, 1865: 275, Luzon (Type!).

***Nacaduba major* Rothschild stat. n.**

(Text-figs. 15 and 32)

*Nacaduba berenice major* Rothschild, 1915: 139, N. Ceram (Type!).

There are in the B.M. (N.H.) examples of both *N. beroe* and *N. major* that were captured in Central Ceram by the Pratt brothers; from this it would seem that—in spite of genitalic and other similarities—they should not be treated as subspecies, but as distinct species; especially so, when one considers the close genitalic relationship of both species with the superficially very different *N. ruficirca*—to be described below—which occurs with *major* in New Guinea.

Compared with *beroe*: the male is slightly larger (fore wing length 16 mm.), with a rather more pointed apex to the fore wing; the underside ground is darker, and all the pale striations



are whiter and more widely spaced. In *beroe* the extremities of the tornal orange lunule on the hind wing are continued down veins 2 and 3 as far as the margin, whereas those of *major* terminate at least 1 mm. from the margin. The male genitalia differ by the greater length of the clasper, its deeply concave dorsal edge, and the more numerous inwardly directed apical points; these points number 6 to 8, but are difficult to count as they are so bunched together that they are never all in view at the same time.

Material in B.M. (N.H.). CERAM: Wahai (*E. Streseman*), 1 ♂ (holotype); Manusela, 6,000 ft., x-xi. 1919 (*C., F. and J. Pratt*), 1 ♂. NEW GUINEA: Arfak, Mt. Siwi, 800 m., 1928 (*E. Mayr*), 5 ♂; Mafulu, 4,000 ft., i. 1934 (*L. E. Cheesman*), 1 ♂; Kapaur, xii. 1896 (*Doherty*), 1 ♂; Upper Aroa River (*Meek*), 3 ♂; Hydrographer Mts., 2,500 ft., 1918 (*Eichhorn Bros.*), 8 ♂. BISMARCK ARCHIPELAGO: New Britain, Talesea, ii-iii. 1925 (*A. F. Eichhorn*), 2 ♂.

### *Nacaduba ruficirca* sp. n.

(Pl. 1, figs. 19-20. Text-figs. 17 and 33)

Length of fore wing in both sexes: 13-14 mm. The wings of the male are narrow, the fore wing apex pointed, and the hind wing bears a short tail. Above, all wings are reddish purple, and show by refraction a frosty sheen; the submarginal areas are slightly clouded by a scattering of dusky scales, which serves to blend the purple into the dusky marginal line. On the hind wing, the dark spot in cellule 2 is often accompanied by lesser spots in cellules 1 and 3, those in 1 and 2 being bordered outwardly by a pale stripe. Beneath the predominant colour is warm brown, the fine striations being off-white in colour. The hind wing tornal orange markings are of a more reddish hue than are those of any other member of the genus. In the female, the costal and distal margins of the primaries are widely dusky brown, the remainder of the wing being lavender-blue; which colour extends from the base, through the lower half of the cell to the inner third of area 4, between veins 2 and 3 to within 3 mm. of the margin, and below vein 2 to within 2 mm. of the margin. The secondaries are dusky brown from the costa to vein 6; below this, the basal and discal areas are lavender-blue somewhat obscured by dusky scaling, and veins 1 to 4 are heavily scaled with fuscous; the very distinct marginal and submarginal markings are present in all areas below vein 6; the spots are sharply outlined with white, and the lunules are acutely pointed inwardly. The male genitalia closely resemble those of the two preceding species; the clasper is short like that of *beroe*, but its apical points are bunched like those of *major*, and set at a rather more obtuse angle.

Holotype ♂, BRITISH NEW GUINEA: Hydrographer Mts., 2,500 ft., iv-v. 1918 (*Eichhorn Bros.*), B.M. Type No. Rh. 16579

Allotype ♀, as holotype, B.M. Type No. Rh. 16580.

Other material. NEW GUINEA: as holotype, 4 ♂; Aroa River (*Meek*), 11 ♂; Mambare R., Biagi, 5,000 ft., i-iii. 1906 (*Meek*), 5 ♂; Arfak, Mt. Siwi, 800 m., iv-vi. 1928 (*E. Mayr*), 23 ♂; Arfak, Ditschi, v-vi. 1928 (*E. Mayr*), 1 ♂; Kratke Mts., Buntibasa Distr., 4-5,000 ft., vi. 1932 (*F. Shaw-Mayer*), 1 ♂; Wandammen Mts., 3-4,000 ft., xi. 1914 (*Pratt Bros.*), 2 ♂; Arfak, Angi Lakes, 8,000 ft., i-ii. 1914 (*Pratt Bros.*), 1 ♂; 2 days N. of Fak Fak, 1,700 ft., xi. 1907 (*A. E. Pratt*), 1 ♂; Weyland Mts., 3,500 ft., vi. 1920 (*A. E. Pratt*), 1 ♂; Snow Mts., Near Oetakwa River, up to 3,500 ft., x-xii. 1910 (*Meek*), 1 ♂; Snow Mts., Utakwa R., 4-6,000 ft., xii-i. 1912-13 (*A. F. R. Wollaston*), 1 ♂.

*Nacaduba calauria* (Felder)(i) *N. calauria evansi* Toxopeus

*Nacaduba calauria evansi* Toxopeus, 1927 : 434, Ceylon.

*Nacaduba calauria toxopeusi* Corbet, 1938 : 138, Ceylon, **syn. n.**

Corbet proposed the name *toxopeusi* for the Ceylon race on the grounds that *evansi* Toxopeus was a primary homonym of *N. kurava euplea d.s.f. evansi* Toxopeus 1927 : 424, but as the latter was described as a mere form, the name has no standing in nomenclature, and *N. calauria evansi* Toxopeus can stand as the valid name.

(ii) *N. calauria malayica* Corbet

*Nacaduba calauria malayica* Corbet, 1938 : 137, pl. 1, figs. 4 and 33, Malay Pen. (Type !).

(iii) *N. calauria cypria* Toxopeus

*Nacaduba calauria cypria* Toxopeus, 1929 : 234, W. Java.

(iv) *N. calauria calauria* (Felder)

(Text-figs. 25 and 38)

*Lycaena calauria* Felder, 1860 : 457, Amboina (Type !).

*Nacaduba tristis* Rothschild

(Text-figs. 26 and 37)

*Nacaduba tristis* Rothschild, 1915 : 29, Utakwa River (Type !).

This species has been treated as a subspecies of *N. berenice* by various authors, but examination of the male genitalia of the type reveals a close relationship with *N. calauria*. The last named species is found from Ceylon, through Malaya and the Sunda Islands to the Moluccas, Dutch New Guinea and New Britain ; while *tristis* occurs in Obi, Ceram, and New Guinea. The ranges of the two species overlap in Ceram, Dutch New Guinea and the Schouten Islands. These two species are indistinguishable above, and the only differential character in *tristis* below is the outward displacement of median spot 5 on the fore wing, which gives the median band a distinctly angled effect. The male armatures are structurally similar, but the *tristis* clasper is smaller, the distal teeth larger in proportion and more pointed ; the dorsal margin is more strongly convex. In the aedeagus the vesical cornuti—so obvious in all preparations of *calauria* examined—cannot be discerned.

*Nacaduba glauconia* (Snellen)

(Text-figs. 21 and 34)

(i) *N. glauconia glauconia* (Snellen)

*Lycaena glauca* Snellen, 1892 : 142, Java.

*Lycaena glauconia* Snellen, 1901 : 264, n. n. for *Lycaena glauca*.

(ii) *N. glauconia overdijkinki* Toxopeus

*Nacaduba glauconia overdijkinki* Toxopeus, 1929 : 236, E. Java.

*Nacaduba dyopa* (Herrich-Schaeffer)

(Text-figs. 29 and 39)

*Lycaena dyopa* Herrich-Schaeffer, 1869 : 75, Overlau.

*Catochrysops vitiensis* Butler, 1883 : 389, Viti Island (Type !), **syn. n.**

*Nacaduba gemmata* Druce, 1887 : 204, Fiji Is. (Type !), **syn. n.**

*Nacaduba vitiensis* Druce, 1892 : 437.

*Nacaduba gemmata* Druce, 1892 : 437.

*Nacaduba dyopa* Druce, 1892 : 437.

Druce pointed out that *gemmata* was a synonym of *vitiensis* Butler, and suggested that the latter might prove to be synonymic with *dyopa*. Careful study of Herrich-Schaeffer's description and Butler's type makes the suggestion a certainty. In addition to 18 ♂ and 13 ♀ from Fiji, there are in the B.M. 1 ♂ from New Hebrides, 1 ♂ and 4 ♀ from Tonga and 1 ♂ and 1 ♀ from Samoa.

### *Nacaduba samoensis* Druce

(Text-figs. 23 and 40)

*Nacaduba samoensis* Druce, 1892 : 437, pl. 27, figs. 5-6, Samoa (Type !).

*Nacaduba vitiensis samoensis* Hopkins, 1927 : 56 (part).

On the evidence of the male genitalia, there is no doubt that this is a distinct species, despite its close superficial resemblance to *dyopa*. The elongate clasper bends outwards in sweeping curves to its cup-shaped apex, which is produced inwardly to terminate in a curved point. The aedeagus is curved and somewhat narrowed before the apex; an unusual feature is the presence of two sabre-like structures—one on each side of the organ—which commence near the base and curve gently downwards, protruding ventrally at about three-quarter the penis length; they may be extensions of the anellus. Druce has well described the external points of difference with *dyopa*. Evidently the two species occur together in Samoa, and the presence of four examples of *samoensis* from Fiji in the B.M. (N.H.) suggests that further collecting might reveal its presence in other Pacific islands.

Material in B.M. (N.H.): SAMOA: (*G. F. Mathew*), 1 ♂ (holotype); Upolu, Apia, 9. vii. 1922 (*J. S. Armstrong*), 2 ♂, 2 ♀; FIJI: Suva, 1895 (*Woodford*), 1 ♂; Ovalau (*Mus. Godeffroy*, ex. Felder Coll.), 1 ♀.

### *Nacaduba deplorans* (Butler)

(Text-figs. 22 and 41)

*Lampides deplorans* Butler, 1875 : 614, Loyalty Islands (Type !).

### *Nacaduba deliana* (Snellen)

*Lycaena deliana* Snellen, 1892 : 139, Java.

*Lycaena deliana* Piepers & Snellen, 1918 : 51, pl. 22, fig. 70.

As no specimens are available for study this name is tentatively placed here.

### *Nacaduba biocellata* (Felder)

Although this species bears a close resemblance to some members of the genus *Prosotas*, the very distinctive shape of the male clasper indicates no close relationship; so for the purpose of this paper the species is retained in *Nacaduba*.

(i) *N. biocellata biocellata* (Felder)

(Text-figs. 28 and 42)

*Lycaena biocellata* Felder, 1865 : 280, pl. 35, fig. 14, Adelaide (Type !).

(ii) *N. biocellata armillata* (Butler)

*Lampides armillata* Butler, 1875 : 614, Vaté (Type !).

(iii) *N. biocellata baliensis* **ssp. n.**

Smaller than the nominate race, the male fore wing only attaining a length of from 8 to 10 mm. All wings are smoky purple above as in ssp. *armillata*, and are never clear purple as in Australian examples. The brown marginal band is just over 1 mm. in width, noticeably wider than in either of the other races. In the female the ground colour is unicolorous brown without any blue scaling whatever. The underside exhibits no differential characters. Presence in the B.M. (N.H.) of single specimens from Sumba & Kisser would suggest that this race may have been overlooked by collectors and may occur over a wide area in the Sunda Islands.

Holotype ♂, W. BALI: Gilmanoeck, v. 1935 (*J. P. A. Kalis*), B.M. Type No. Rh. 16581.

Allotype ♀, as holotype, B.M. Type No. Rh. 16582.

Other material. As holotype, 16 ♂, 2 ♀; LESSER SUNDA ISLANDS: Sumba, x. 1891 (*W. Doherty*), 1 ♀; Kisser I. (*Kuhn*), 1 ♂.

### *Nacaduba nebulosa* Druce

*Nacaduba nebulosa* Druce, 1892 : 440, pl. 27, figs. 10-11, New Hebrides (Type !).

This species is represented in the B.M. (N.H.) by the male holotype (without an abdomen), the female allotype and four other females, all from New Hebrides. It is therefore not possible to come to a decision regarding its true affinities.

### *Nacaduba cladara* Holland

*Nacaduba cladara* Holland, 1900 : 73, Buru.

### *Nacaduba glenis* Holland

*Nacaduba glenis* Holland, 1900 : 74, Buru.

The above two names are appended here, as it has not been possible to identify either of them from the descriptions.

### **PROSOTAS** Druce

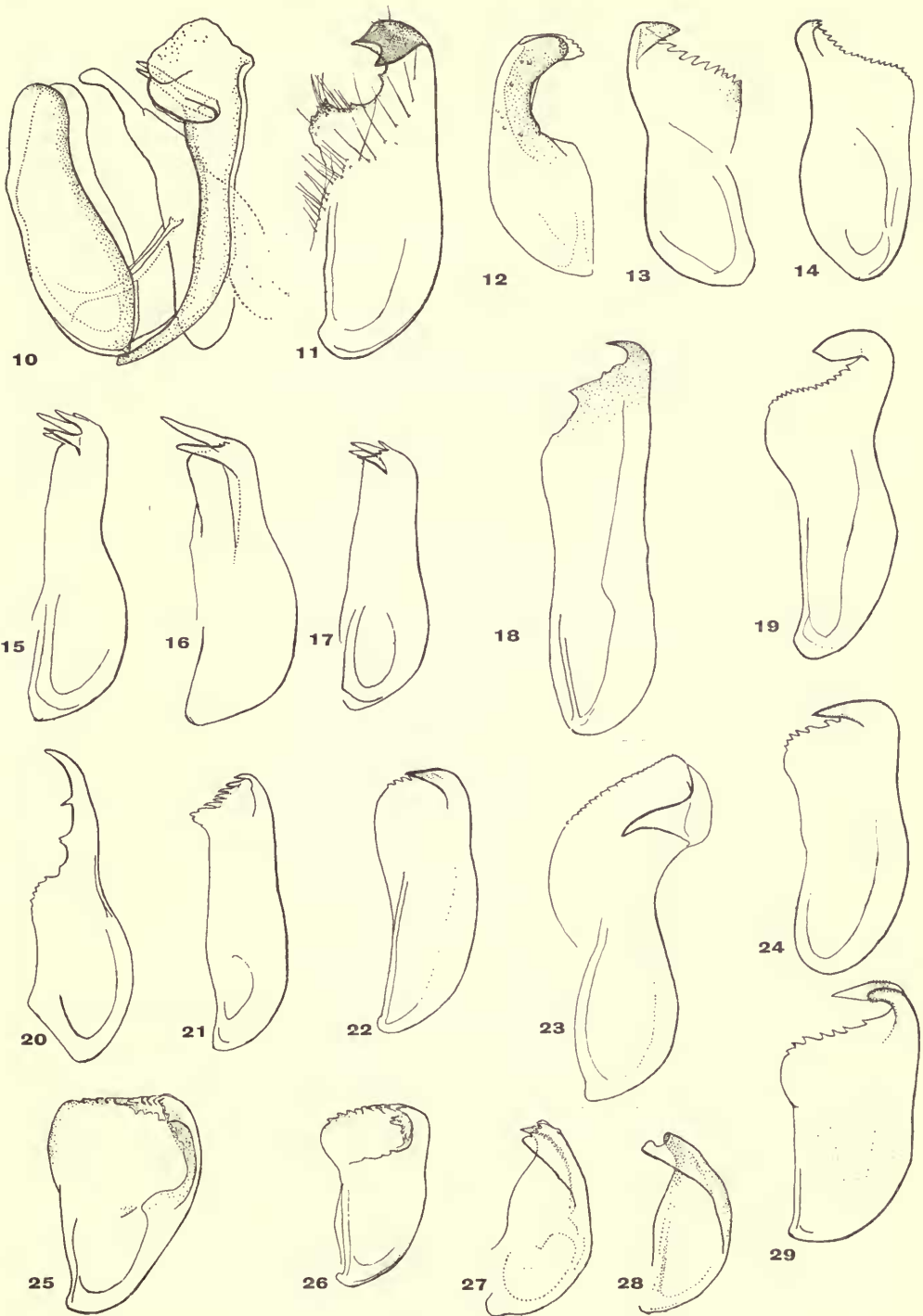
*Prosotas* Druce, 1891 : 366, pl. 31, fig. 15, Type species : *Prosotas caliginosa* Druce.

*Prosotas* Druce ; *Toxopeus*, 1929 : 237.

The genus as described by Druce was monotypical, and characterized by the almost complete anastomosis of the costal and first subcostal nervures. *Toxopeus* quoted this character, but included in the genus several species in which these

FIG. 10. ♂ genital armature, *Nacaduba astarte plumbata*.

FIGS. 11-29. ♂ clasper : 11, *Nacaduba mioswara* ; 12, *N. sericina* ; 13, *N. cajetani* ; 14, *N. novaehbridensis vulcana* ; 15, *N. major* ; 16, *N. beroe* ; 17, *N. ruficirca* ; 18, *Petrelaea dana* ; 19, *N. kurava lydia* ; 20, *N. lucana* ; 21, *N. glauconia* ; 22, *N. deplorans* ; 23, *N. samoensis* ; 24, *N. mallicollo* ; 25, *N. calauria* ; 26, *N. tristis* ; 27, *N. sumbawa* ; 28, *N. biocellata* ; 29, *N. dyopa*.



nervures are joined for a short distance, then separate and reach the costa independently as in true *Nacaduba*. Without denuding the wings it is, in some cases, difficult to observe the final course of the costal nervure, and this may explain his apparent failure to notice the inconsistency. However, the same author points out differences in the palpi, the general habit of life, and the uniform formation of the male claspers of all the species concerned. It would therefore seem that we are dealing here with a natural group of related species, and it is intended to follow Toxopeus and include under *Prosotas* all those species having simple claspers terminating in a pointed hook (Text-figs. 46-52, 54-60, 62 and 63), , and an aedeagus with a truncate branch-like process arising ventrally from just below the apex (Text-figs. 53 and 61).

### *Prosotas aluta* (Druce)

(i) *P. aluta coelestis* (Wood-Mason & de Niceville)

(Text-fig. 46)

*Nacaduba coelestis* Wood-Mason & de Niceville, 1886 : 366, pl. 17, fig. 11, Andamans.

*Nacaduba aluta coelestis* Fruhstorfer, 1916 : 119.

(ii) *P. aluta nanda* (de Niceville)

*Nacaduba nanda* de Niceville, 1895 : 34, pl. S, fig. 23, NE. Sumatra.

*Nacaduba aluta nanda* Fruhstorfer, 1916 : 119.

(iii) *P. aluta lessina* (Fruhstorfer)

*Nacaduba aluta lessina* Fruhstorfer, 1916 : 119, Nias (Type !).

(iv) *P. aluta aluta* (Druce)

*Cupido aluta* Druce, 1873 : 349, pl. 32, fig. 8, Borneo (Type !).

(v) *P. aluta philiata* (Fruhstorfer)

*Nacaduba aluta philiata* Fruhstorfer, 1916 : 119, Philippines (Type !).

(vi) *P. aluta alutina* (Fruhstorfer)

*Nacaduba aluta alutina* Fruhstorfer, 1916 : 120, N. Celebes (Type !).

### *Prosotas nelides* (de Niceville)

(Text-fig. 47)

*Nacaduba nelides* de Niceville, 1895 : 280, pl. O, fig. 24, NE. Sumatra (Type !).

### *Prosotas nora* (Felder)

(i) *P. nora ardates* (Moore)

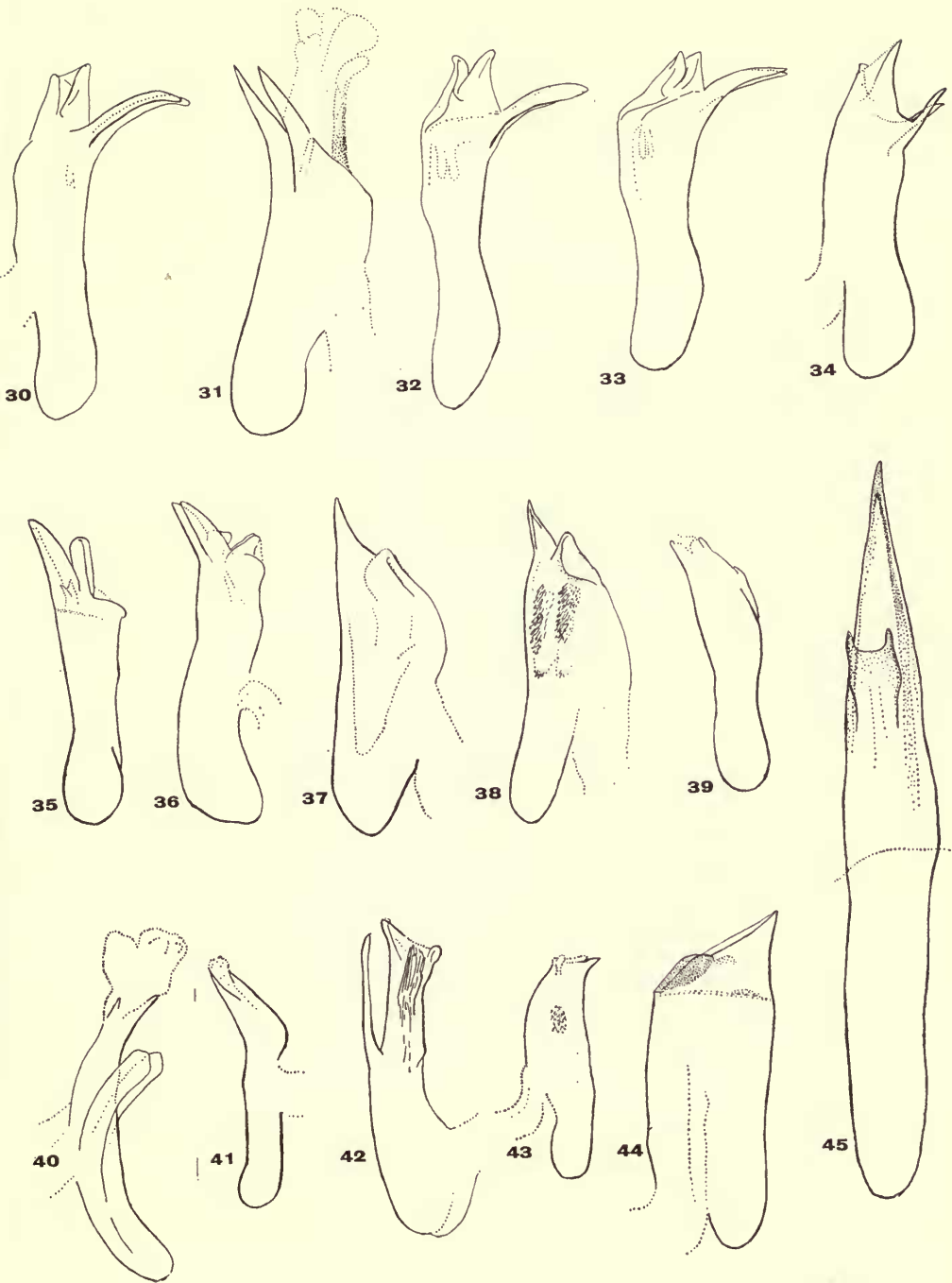
(Text-figs. 48 and 53)

*Lycaena ardates* Moore, 1874 : 574, pl. 67, fig. 1, Cashmere (Type !).

*Nacaduba kodi* Evans, 1910 : 387, Palni Hills (Type !).

---

FIGS. 30-45. ♂ aedeagus : 30, *Nacaduba beroe* ; 31, *N. lucana* ; 32, *N. major* ; 33, *N. ruficirca* ; 34, *N. glauconia* ; 35, *N. novaehbridensis vulcana* ; 36, *N. cajetani* ; 37, *N. tristis* ; 38, *N. calauria* ; 39, *N. dyopa* ; 40, *N. samoensis* ; 41, *N. deplorans* ; 42, *N. biocellata* ; 43, *N. sericina* ; 44, *N. mioswara* ; 45, *Petrelaea dana*.



(ii) *P. nora fulva* (Evans) **comb. n**

*Nacaduba dubiosa fulva* Evans, 1925 : 613, Andamans (Type !).

The type is a female in poor condition, without an abdomen, and the margins are so damaged that no indication of a tail at vein 2 of the hind wing is discernible. Comparison with the Andamanese specimens in the B.M. (N.H.) reveals without doubt that it really belongs to *P. nora*. *P. dubiosa* is represented in the B.M., from the Andamans, by only one male and four females, and these are not noticeably different from Indian examples of that species.

(iii) *P. nora dilata* (Evans)

*Nacaduba nora dilata* Evans, 1932 : 243, Nicobars (Type !).

(iv) *P. nora formosana* (Fruhstorfer)

*Nacaduba nora formosana* Fruhstorfer, 1916 : 116, Formosa (Type !).

(v) *P. nora superdates* (Fruhstorfer)

*Nacaduba nora donina f. superdates*, Fruhstorfer, 1916 : 117, Java (Type !).

(vi) *P. nora kupu* (Kheil)

*Plebeius kupu* Kheil, 1884 : 29, pl. 5, fig. 34, Nias.

(Type ? A specimen from the Fruhstorfer collection in the B.M. (N.H.) is labelled in Fruhstorfer's writing as the type).

(vii) *P. nora meraha* (Fruhstorfer)

*Nacaduba nora meraha* Fruhstorfer, 1916 : 117, Engano (Type !).

(viii) *P. nora semperi* (Fruhstorfer)

*Nacaduba nora semperi* Fruhstorfer, 1916 : 116, S. Philippines (Type !).

(ix) *P. nora nora* (Felder)

*Lycaena nora* Felder, 1860 : 458, Amboina (Type !).

(x) *P. nora auletes* (Waterhouse & Lyell)

*Nacaduba nora auletes* Waterhouse & Lyell, 1914 : 98, figs. 353-355, Cape York.

***Prosotas atra* sp. n.**

(Pl. I, figs. 10-11. Text-fig. 49)

The upper surface of the male is unicoloured dull sooty brown, and the cilia are grey-brown with a darker line running through them. In size and shape the insect is very like *P. nora*. On the under surface the pattern is similar to that of *nora*, but the median band on the fore wing is moved slightly inwards and the submarginal lunules are very faint; this gives the outer portion of the wing a rather bare appearance. On the hind wing, besides the metallic flecked black tornal spot, there are a pair of smaller metallic spots in area 1, and a single one in area 3, all are margined internally by sandy-yellow chevrons. The female is above paler brown, with just a hint of olive in its composition, its only markings being a series of blackish submarginal spots on the hind wing, sharply outlined in bluish white. On the underside it is like the male, but the ground is more pale yellow-brown, and the bands are rather narrower.

Holotype ♂, NEW BRITAIN : Talesea, III-iv. 1925 (*A. F. Eichhorn*), B.M. Type No. Rh. 16583.

Allotype ♀, as holotype, B.M. Type No. Rh. 16584.

Other material. NEW BRITAIN : as holotype, 6 ♂. NEW GUINEA : Kumusi R., v-ix. 1907 (*A. S. Meek*), 3 ♂ ; Milne Bay, xi. 1898 (*A. S. Meek*), 1 ♂ ; Dorey Bay,



Andai, 1892 (*W. Doherty*), 1 ♂; Geelvink Bay, Wandesi, 1892 (*W. Doherty*), 1 ♂.  
 CERAM: Piroe, 4.ii.1909 (*J. C. Kershaw*), 1 ♂.

***Prosotas talesea* sp. n.**

(Pl. 1, figs 12-13. Text-fig 50)

Apart from a rather stronger dark marginal line, the upperside of the male scarcely differs from that surface in *P. nora*. The female also closely resembles the *nora* female from the Bismark Archipelago. Beneath, both sexes can be easily recognized by the warm brown colour, the prominent marginal and submarginal markings, and by the creamy yellow band that traverses the hind wing, filling the entire area between the median band and the submarginal lunules. The male clasper is broad at the base, diminishing evenly in width and proceeding in a regular curve to a fine pointed apex.

Holotype ♂, NEW BRITAIN: Talesea, ii.1925 (*A. F. Eichhorn*), B.M. Type No. Rh. 16585.

Allotype ♀, as holotype, iii-vi.1925, B.M. Type No. Rh. 16586.

Other material. As holotype, ii-iii, 1925, 6 ♀.

***Prosotas papuana* sp. n.**

(Pl. 1, figs. 14-15. Text-fig. 51)

This is another species having a strong resemblance in appearance and size to *P. nora*. It differs in the shape of the male clasper which is similar to that of *P. pia*. In contrast to *nora*, the male is of a distinctly more reddish-purple tint, with a heavier dark marginal line on all wings. On the hind wing, the tornal black spot in area 2, and the bifid spot in area 1, are evident above, and both are margined distally with a fine white line. The female is dark brown above, in contrast to the greyish fuscous hue of *nora*; the blue area on the fore wing is reduced to a few scattered blue scales in the centre of the wing. On the hind wing the submarginal series of spots are encircled by dingy pale lunules, and so are less obvious than those of *nora*, which has clearly defined white ones. The under surface in both sexes is clear light brown, without the yellow and grey tints of *nora*; its markings are similar to those of that species, but the orange tornal crescent is replaced by a bright red one.

Holotype ♂, BRITISH NEW GUINEA: Hydrographer Mts., 2,500 ft., iv-v.1918 (*Eichhorn Bros.*), B.M. Type No. Rh. 16587.

Allotype ♀, data as holotype, B.M. Type No. Rh. 16588.

Other material. NEW GUINEA: as holotype, i-v.1918, 12 ♂, 2 ♀; Welsh River (*Weiske*), 1 ♂; Upper Aroa R. (*Meek*), 1 ♂; Ninay Valley, 1908-09 (*A. E. Pratt*), 2 ♂; Weyland Mts., 3,500 ft., vi.1920 (*Pratt Bros.*), 1 ♂; Arfak Mts., Angi Lakes, 6,000 ft. (*Pratt Bros.*), 1 ♂; Kratke Mts., Buntibasa, 4-5,000 ft., v.1932 (*F. Shaw-Mayer*), 5 ♂; Snow Mts., Nr. Oetakwa R., up to 3,500 ft., x-xii.1910 (*Meek*), 1 ♀.

***Prosotas felderi* (Murray)**

(Text-fig. 52)

*Lycaena felderi* Murray, 1874: 527, Queensland.

*Lycaena mackayensis* Miskin, 1890: 35, Mackay.

*Prosotas pia* Toxopeus

Examination of the male genitalia reveals that although *P. pia* so closely resembles *P. nora* superficially, it must be regarded as a distinct species; its short and broad clasper at once identifies the insect. Additional evidence is now provided by the discovery of the extra-Javan races listed below.

(i) *P. pia marginata* ssp. n.

(Pl. 1, figs. 16-17)

In the early stages of preparation for this work, a letter was received from Col. J. N. Eliot in which he described in his series of *nora* a male, taken by himself in Sikkim, which he felt sure was an undescribed species. Investigation of the material in the B.M. (N.H.) elicited the surprising fact that a race of *pia* occurs together with *nora* over a large range extending from Sikkim and Assam to Burma, of which Col. Eliot's insect is an example.

It differs from *nora* as follows: the male ground colour is of a more slate-blue tint; the dusky margins are wider, in some examples approaching a width of 1 mm.; the female is indistinguishable above from that sex of *nora*. Beneath, both sexes are variable but always lighter in colour, with the much darker markings contrasting strongly; the spot below the fore wing cell centre is usually reduced. A considerable degree of individual variation is discernible, extreme dry season males being paler, almost lilac above, and having a much simplified pattern on a lighter ground beneath. In doubtful cases the male genitalia furnish a sure guide.

Holotype ♂, ASSAM: Naga Hills, Kirbari, 10-24.vii.1912 (*Tytler*), B.M. Type No. Rh. 16589.

Allotype ♀, ASSAM: Manipur, Imphal, 21.v.1911 (*Tytler*), B.M. Type No. Rh. 16590.

Other material. Numerous localities in Sikkim, Assam and Burma, 102 ♂, 19 ♀.

(ii) *P. pia pia* Toxopeus

(Pl. 1, fig. 18., pl. 2, fig. 9 Text-fig. 55)

*Prosotas pia* Toxopeus, 1929: 241, W. Java (Paratypes!).

Specimens from Malaya, Sumatra and Borneo are not separable from those of Java.

(iii) *P. pia elioti* ssp. n.

The male is deep purple on the upperside, deeper in tint than either of the preceding subspecies; this colour has a brownish tinge in certain lights; the dark marginal line is thread-like. The bases of the wings are somewhat darkened but bear a thin scattering of blue scales. The underside is dull earth-brown; its marginal markings are evanescent, while the brown bands and spots on the remainder of the wings are emphasized by parallel darker lines which are outwardly margined with fine white lines. Whereas the female of *nora* from Celebes is normally completely black-brown above, and of a decidedly yellow tone beneath, that sex of *elioti* exhibits a greenish-blue patch in the centre of the fore wing and a pale olive-brown underside.

This race is described from three specimens generously presented to the B.M. (N.H.) by its discoverer Col. J. N. Eliot.

Holotype ♂, S. CELEBES : Malino, 3,000 ft., 14.vi.1937 (*J. N. Eliot*), B.M. Type No. Rh. 16591.

Allotype ♀ data as holotype, B.M. Type No. Rh. 16592.

Other material. As holotype, 1 ♀.

(iv) *P. pia ceramensis* ssp. n.

*Prosotas parrhasius* (*nora*) *rothschildi* Toxopeus (misidentification), 1930 : 100, Ceram.

The male upperside differs from that of *nora* by the presence of a nebulous dark marginal band of up to 1 mm. in width on all wings. Dusky tornal spots, each accompanied externally by a pale interneural stripe, are vaguely observable on the hind wing. Beneath the colour is greyish, and the submarginal markings are evanescent as in *pia* and *elioti*. The female can best be distinguished from that sex of *nora* by its brown underside, which is in distinct contrast to the bright yellow one of Ceram examples of that species.

This is the insect confused by Toxopeus with *Nacaduba felderi* Rothschild, and renamed by him *rothschildi*. The latter name is discussed under *N. cajetani* (see p. 79).

Holotype ♂, CERAM : Manusela, 650 m., 1912 (*E. Stresemann*), B.M. Type No. Rh. 16593.

Allotype ♀, CERAM : Manusela, 6,000 ft., x-xii.1919 (*Pratt Bros.*), B.M. Type No. Rh. 16594.

Other material. As holotype, 8 ♂ ; as allotype, 3 ♂, 4 ♀ ; Ceram I., x-xi.1909 (*W. Stalker*), 3 ♂.

*Prosotas ella* Toxopeus

(Text-fig. 56)

*Prosotas ella* Toxopeus, 1930 : 188, Palu, Centr. Celebes.

*Prosotas norina* Toxopeus

*Prosotas norina* Toxopeus, 1929 : 239, Java.

It has not been possible to identify any specimen of this species, and the name is placed here provisionally.

*Prosotas bhutea* (de Niceville)

(Text-fig. 57)

*Nacaduba bhutea* de Niceville, 1883 : 72, pl. 1, fig. 13, Sikkim.

*Prosotas datarica* (Snellen)

(Text-fig. 58)

*Lycaena datarica* Snellen, 1892 : 140, Java.

*Lycaena datarica* Piepers & Snellen, 1918 : 42, pl. 21, figs. 57a-b.

*Prosotas subardates* Toxopeus, 1929 : 242, Java.

***Prosotas gracilis*** (Röber)(i) *P. gracilis ni* (de Nivecille)

(Text-fig. 59)

*Nacaduba ni* de Niceville, 1902 : 247, NE. Sumatra.? *Nacaduba basiatrata* Strand, 1910 : 203, Sumatra, **syn. n.**(ii) *P. gracilis donina* (Snellen)*Lycaena donina* Snellen, 1901 : 262, W. Java.(iii) *P. gracilis gracilis* (Röber)*Plebeius gracilis* Röber, 1886 : 67, pl. 5, fig. 1, Ceram.*Nacaduba gerydomaculata* Rothschild, 1915 : 139, Central Ceram (Type !), **syn. n.**(iv) *P. gracilis saturator* (Rothschild) **stat. n.***Nacaduba saturator* Rothschild, 1915 : 393, Dampier I. (Type !).***Prosotas elsa*** (Grose Smith)

(Text-figs. 60 and 61)

*Nacaduba elsa* Grose Smith, 1895 : 509, Amboina (Type !).***Prosotas dubiosa*** (Semper)(i) *P. dubiosa indica* (Evans)

(Text-figs. 53 and 54)

*Nacaduba dubiosa indica* Evans, 1925 : 613, Ceylon (Type !).(ii) *P. dubiosa lumpura* (Corbet)*Nacaduba dubiosa lumpura* Corbet, 1938 : 141, Malay Pen. (Type !).(iii) *P. dubiosa subardates* (Piepers & Snellen)*Lycaena ardates subardates* Piepers & Snellen, 1918 : 43, Java.*Prosotas dubiosa roepkei* Toxopeus, 1929 : 242, Java (**syn. n.**).*Prosotas hybrida* Toxopeus, 1929 : 241, Java (**syn. n.**).

The name *subardates* although somewhat fortuitiously included in the literature must stand, and can only apply to the insect figured by Piepers & Snellen (1918, pl. xxi, fig. 58). Toxopeus (1929 : 242) used the name incorrectly for an insect that is most probably *datarica* Snellen.

(iv) *P. dubiosa eborata* **ssp. n.**

(Pl. 2, figs. 10-11)

This Solomon Islands race is in both sexes identical above with specimens from the New Guinea mainland ; beneath, it can be readily recognized by the presence of a wide ivory coloured band on the hind wing which fills the whole of the area between the median band and the submarginal series of lunules. The submarginal spots on this wing are also surrounded by the same pale colour, but in other respects the underside of all wings conforms to the normal *dubiosa* pattern.

Holotype ♂, SOLOMON ISLANDS : N. side of Choiseul I., xii.1903 (*A. S. Meek*), B.M. Type No. Rh. 16595.

Allotype ♀. Data as holotype, B.M. Type No. Rh. 16596.

Other material. SOLOMON ISLANDS : as holotype, 3 ♂ ; Isabel I., vi-viii.1901 (*A. S. Meek*), 6 ♂ ; Bougainville, vi.1904 (*A. S. Meek*), 1 ♂ ; Gela, 1 ♂ ; Guizo,

xi.1903 (*A. S. Meek*), 2 ♀; Guadalcanal, Lunga, 28.ii.1935 (*R. A. Lever*), 1 ♀; Nissan I., viii.1924 (*A. F. Eichhorn*), 1 ♂.

(v) *P. dubiosa dubiosa* (Semper)

*Lampides dubiosa* Semper, 1879 : 159, Queensland (Type!).

***Prosotas caliginosa* Druce**

(Text-fig. 63)

*Prosotas caliginosa* Druce, 1891 : 366, pl. 31, fig. 15, Alu I. (Type!).

***Prosotas lutea* (Martin)**

(i) *P. lutea sivoka* (Evans)

*Nacaduba sivoka* Evans, 1910 : 427, Teesta Valley (Type!).

(ii) *P. lutea lutea* (Martin)

*Nacaduba lutea* Martin, 1895 : 1, NE. Sumatra (Type!).

***Prosotas noreia* (Felder)**

(i) *P. noreia noreia* (Felder)

(Text-fig. 62)

*Lycaena noreia* Felder, 1868 : 282, Ceylon.

(ii) *P. noreia hampsonii* (de Niceville)

*Nacaduba hampsonii* de Niceville, 1885 : 118, pl. 2, fig. 13, Ootacamund.

*Lycaenesthes emolus topa* Evans, 1912 : 986, Palni Hills (Type!).

(iii) *P. noreia cyclops* Toxopeus

*Prosotas noreia cyclops* Toxopeus, 1929 : 241, Java.

**PARADUBA Bethune-Baker**

*Paraduba* Bethune-Baker, 1906 : 103.

Type-species : *Paraduba owgarra* Bethune-Baker.

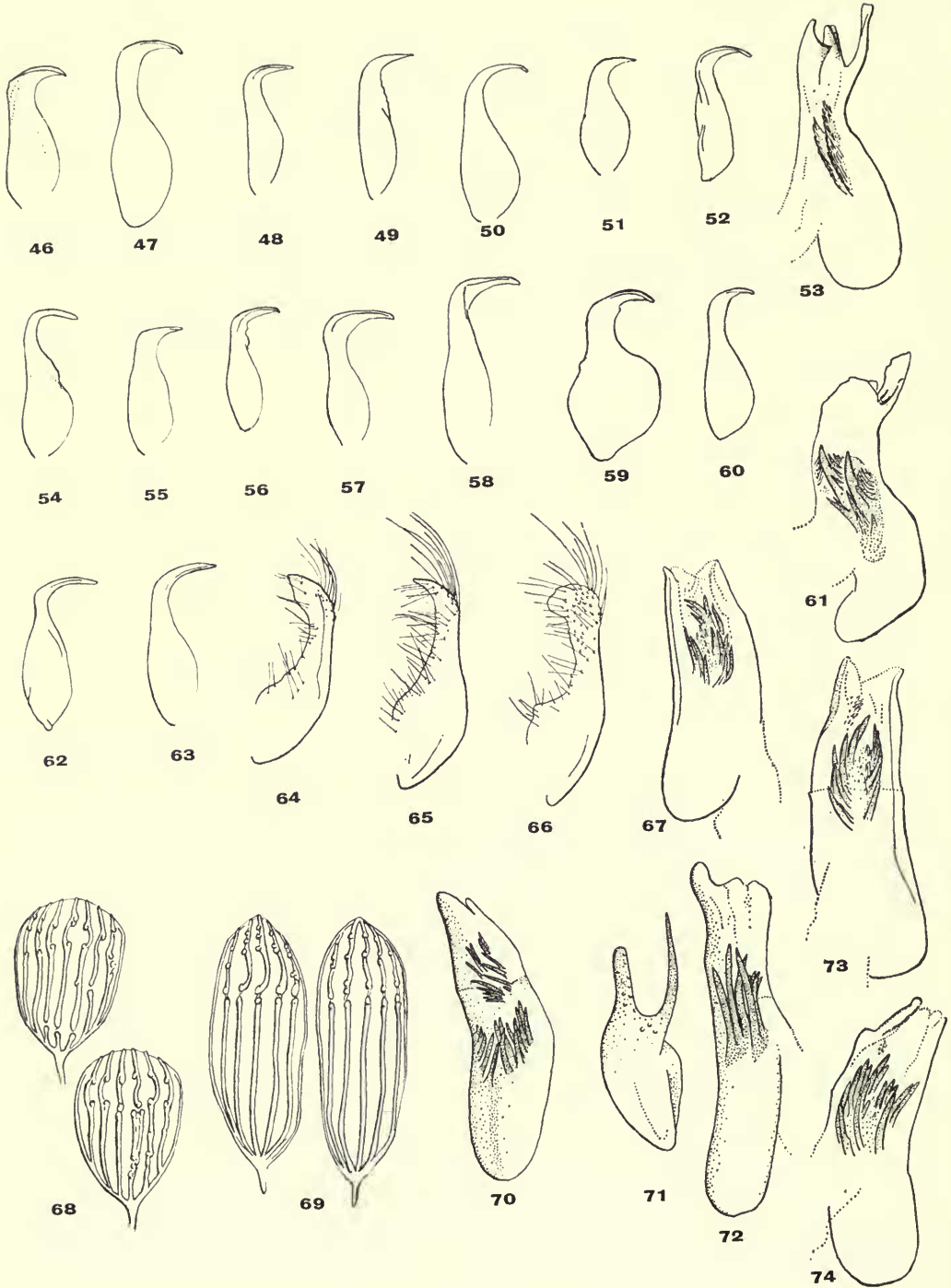
Bethune-Baker distinguished this genus from *Nacaduba* by certain characters of the fore wing venation. Careful examination of the series of *P. owgarra* in the B.M. (N.H.) has failed to confirm all his findings; certainly the origins of veins 6 and 7 are closer together than those of *Nacaduba*, but the termination of 7, and the courses of 11 and 12, scarcely differ from their counterparts in that genus. Nevertheless, the name *Paraduba* should be retained for the three species *owgarra*, *metriodes* and *siwiensis*, all of which show close affinity with one another in the male genitalic structure, namely the simple clavate densely-haired claspers, and the strongly cornute aedeagi (see Text-figs.).

***Paraduba owgarra* Bethune-Baker**

(Pl. 2, figs. 12-13. Text-figs. 64 and 67)

*Paraduba owgarra* Bethune-Baker, 1906 : 104, Brit. New Guinea, Owgarra (Type!).

A series of some 30 males and a solitary female are in the B.M. (N.H.) and come from Owgarra, Aroa River, Mambare River and Angabunga River, all in British New Guinea.



The hitherto unknown female can be described as follows. In shape it is like the male, but the wings are rather broader. The fringes are brown with the exception of a white portion—extending from vein 4 to just below the apex on the hind wing. The fore wing is dingy brown above, with a strong intermixture of blue scales at the base of area 1, and a similar intermixture of more whitish scales at the bases of areas 2 and 3. On the dingy brown hind wing, a scattering of blue scales fills the cell, and spreads outwards to the bases of all areas from 1 to 6. The underside only differs from that of the male in the more whitish ground colour of its fore wing.

Neallotype ♀, BRITISH NEW GUINEA: Angabunga River, 6,000 ft., xi-ii. 1904-05 (A. S. Meek), B.M. Type No. Rh. 16597.

*Paraduba metriodes* (Bethune-Baker)

(i) *P. metriodes metriodes* (Bethune-Baker)

(Pl. 2, figs. 14-15. Text-figs. 65 and 74)

*Nacaduba metriodes* Bethune-Baker, 1911: 452 British New Guinea, Dinawa (Type!).

*Nacaduba proxima* Rothschild; Joicey & Talbot, ♀, 1916: 79, Wandammen Mts. (Neallotype!).

A series in the B.M. (N.H.) come from British New Guinea and Humbolt Bay, Wandammen Mts., Fak Fak, Kapaur, Arfak Mts., Geelvink Bay, in Dutch New Guinea.

The insect referred to by Joicey & Talbot as the female of *proxima* Rothschild is an aberrant male *metriodes metriodes* with a wide dark margin; its sex has been confirmed by dissection.

(ii) *P. metriodes proxima* (Rothschild) **comb. n.**

(Pl. 2, figs. 16-18)

*Nacaduba proxima* Rothschild, 1915: 29, Utakwa R. (Type!).

Represented in the B.M. (N.H.) by a series of 24 males and one female, all are from the Setekwa and Utakwa Rivers in the Snow Mountains, Dutch New Guinea.

On the upperside the males are identical with those of the nominate subspecies, but the darker underside, with bolder and whiter reticulations, make this a quite distinctive race.

The female—so far undescribed—is pale grey-blue above; which colour gradually merges with the wide fuscous-brown costal margin, and with the even wider distal margin on all wings. The hind wing series of black submarginal spots are bordered outwardly by a series of inter-neural white lines, and inwardly by a series of pale lunules. The underside is like that of the male.

FIGS. 46-52. ♂, clasper: 46, *Prosotas aluta coelestis*; 47, *Pr. nelides*; 48, *Pr. nora ardates*; 49, *Pr. atra*; 50, *Pr. talesea*; 51, *Pr. papuana*; 52, *Pr. felderi*.

FIG. 53. ♂, aedeagus, *Prosotas dubiosa indica*.

FIGS. 54-60. ♂, clasper: 54, *Prosotas dubiosa indica*; 55, *Pr. pia pia*; 56, *Pr. ella*; 57, *Pr. bhutea*; 58, *Pr. datarica*; 59, *Pr. gracilis ni*; 60, *Pr. elsa*.

FIG. 61. ♂, aedeagus: *Prosotas elsa*.

FIGS. 62-66. ♂, clasper: 62, *Prosotas noreia*; 63, *Pr. caliginosa*; 64, *Paraduba owgarra*; 65, *Pa. metrioides*; 66, *Pa. siwiensis*.

FIG. 67. ♂, aedeagus: *Paraduba owgarra*.

FIGS. 68-69. ♂, *androconia*: 68, *Ionolyce helicon*; 69, *I. brunnescens*.

FIG. 70. ♂, aedeagus: *Ionolyce helicon*.

FIG. 71. ♂, clasper: *Ionolyce brunnescens*.

FIGS. 72-74. ♂, aedeagus: 72, *Ionolyce brunnescens*; 73, *Paraduba siwiensis*; 74, *Pa. metrioides*.

Neallotype ♀, DUTCH NEW GUINEA : Snow Mts., Upp. Setekwa R., 2-3,000 ft. vii. 1910 (A. S. Meek), B.M. Type No. Rh. 16598.

***Paraduba siwiensis* sp. n.**

(Pl. 2, fig. 19. Text-figs. 66 and 73)

The colour above, and the shape, are similar to those of *owgarra*, but the dusky margins are much narrower. On the underside, the general pattern is like that of *metriodes*, except that the median spots on the fore wing tend to become confluent, and are proportionately wider, especially those on the hind wing. The tornal spot is enclosed inwardly by a very red prominent lunule. The male clasper is stouter and more club-like than that of either of the two preceding species. Only males are known.

Holotype ♂, DUTCH NEW GUINEA : Arfak Mts., Mt. Siwi, 800 m., 1928 (*Dr. E. Mayr*), B.M. Type No. Rh. 16599.

Other material. As holotype, 11 ♂ ; Dutch New Guinea, Ninay Valley, 3,500 ft., 1908-09 (*A. E. Pratt*), 3 ♂.

**IONOLYCE** Toxopeus

*Ionolyce* Toxopeus, 1929 : 236.

Type-species : *Lycaena helicon* Felder.

Apparently the author had intended publishing a diagnosis of this genus in Treubia, for in the original publication he gives "*Ionolyce* Tox. i.l. (Treubia, 1929 ?)". No description has been traced in this or any other publication. He used the name only for *Lycaena helicon* Felder, and as a monotypical genus the name is valid. The neuration of *helicon* shows little deviation from the usual *Nacaduba* pattern ; the anastomosed portion of veins 11 and 12 is longer, and the free end of 12 is very weak. A more definite character is exhibited by the androconia ; whereas in many Lycaenids, the ribs on these scales are composed of parallel series of closely placed nodules, those of *Ionolyce* are ribbon-like, with some nodular irregularities, chiefly in the upper third of the scale. The aedeagus is remarkable for the large spine-like cornuti attached to the vesica.

***Ionolyce helicon*** (Felder)

The pointed apex of the fore wing, the obtuse angle at the end of vein 3 of the hind wing, and the dark purple colouring of the male, combine to make this species easy to identify.

(i) *I. helicon viola* (Moore)

*Lampides viola* Moore, 1877 : 340, Ceylon (Type !).

(ii) *I. helicon merguiana* (Moore)

*Lycaenesthes merguiana* Moore, 1884 : 23, Mergui (Type !).

(iii) *I. helicon brunnea* (Evans)

*Nacaduba helicon brunnea* Evans, 1932 : 241, Andamans (Type !).

(iv) *I. helicon kondulana* (Evans)

*Nacaduba helicon kondulana* Evans, 1932 : 241, S. Nicobars, Kondul (Type !).



(v) *I. helicon javanica* Toxopeus*Ionolyce helicon javanica* Toxopeus, 1929 : 236, Java.(vi) *I. helicon helicon* (Felder)

(Text-figs. 68 and 70)

*Lycaena helicon* Felder, 1860 : 457, Amboina (Type !).*Plebeius unicolor* Röber, 1886 : 66, pl. 5, fig. 4, Ceram, Key, and E. Celebes.(vii) *I. helicon hyllus* (Waterhouse & Lyell) **comb. n.***Nacaduba hermus hyllus* Waterhouse & Lyell, 1914 : 97, figs. 349-351, Cape York.(viii) *I. helicon caracalla* (Waterhouse & Lyell) **comb. n.***Nacaduba caracalla* Waterhouse & Lyell, 1914 : 95, fig. 854, Darnley Island.

This is almost certainly the name for the New Guinea race of *helicon*; the description agrees well with the specimens from that island. Waterhouse's figure is reproduced from a painting, and depicts the upper and undersides of the male. The upperside is a good representation of *helicon*, showing the dark purple colour, the pointed fore wing, and the characteristic obtuse angle in the hind wing margin. The figure of the underside is not so accurate; the median band on the fore wing is too straight, and the general pattern is altogether too vague. However, examination of the figures of *Nacaduba cela* and *N. ios*, on the same plate, reveals similar inaccuracies in each case, obviously these figures cannot be taken at face value. In distinct contrast to all the other races, the female has a large white area in the middle of the fore wing above, recalling that of female *Erysichton lineata*.

Distribution. Waigeu, Mysol, New Guinea, New Britain and New Ireland.

*Ionolyce brunnescens* sp. n.

(Pl. 2, figs. 1-4. Text-figs. 69, 71 and 72)

The apex of the fore wing is less produced than that of *helicon*, and the distal margin of the hind wing is not angled at vein three. Different conditions of light refraction produce a gloss of either purple or green on the brownish upperside. In the female, a large blue fascia on the fore wing occupies the basal halves of areas 1b to 3, and a small part of the base of area 4; the portion of this fascia above vein 2 takes on an almost chalky tone; in other respects the upperside is like that of female *helicon*. Beneath in the male, the submarginal spots are clearly ringed with white, and the adjoining dark lunules are followed on the hind wing by a broad white band, which fills the region between them and the median spots; there is no trace of orange or yellow in the tornal area. The female underside is like that of the male, but the white band is continued on the fore wing, although there it is somewhat marred by brown smudges between the veins. The fore wing measures 15-16 mm. in both sexes. In contrast to the preceding species, the androconia are long, narrow, and leaf-like in shape; they have only five ribbon-like ribs. The genitalia differ by the great length of the ventral spine on the valve, the conical lobe on the distal margin of that organ, and by the great size, and smaller number of cornuti on the vesica.

Holotype ♂, SOLOMON ISLANDS : Isabel I., vi-vii. 1901 (*A. S. Meek*), B.M. Type No. Rh. 16600.

Allotype ♀, SOLOMON ISLANDS : Guizo I., xi. 1903 (*A. S. Meek*), B.M. Type No. Rh. 16601.

Other material. As holotype, 1 ♂.

**ERYSICHTON** Fruhstorfer

*Nacaduba* artengruppe *Erysichton* Fruhstorfer, 1916 : 137 [as subgenus, Fruhstorfer, 1916 : 107].  
Type-species : *Lycaena lineata* Murray. (By present designation.)

Fruhstorfer used this name to distinguish those species of the group that do not possess falces on the uncus ; he included under this head *Nacaduba palmyra* Felder with many subspecies, together with references to the original descriptions, *N. fatureus* Röber and *N. hyperesia* Fruhstorfer. His descriptions and genitalia figures make it clear that he was mistaken in his identifications ; his *palmyra palmyra* is not the insect described by Felder, but is conspecific with *L. lineata* Murray, while his *hyperesia* is in fact the true *palmyra* Felder. *Lycaena lineata* is treated by Fruhstorfer (1916 : 139) as a subspecies of *palmyra*. As *Erysichton* is here used as a genus, and to avoid confusion, I hereby select *Lycaena lineata* Murray as the type of the genus.

***Erysichton lineata*** (Murray)

All races of this species can be at once distinguished from those of *E. palmyra* by their unspotted fringes, the paler grey-blue colour of the males, and in both sexes by the absence of the whitish submarginal areas so characteristic of Felder's species on the underside. The androconia are very distinctive ; they are long and narrow, shaped rather like a paddle with a blade at each end, similar to those of *Petrelaea dana*, but quite twice as large.

(i) ***E. lineata cythora*** (Fruhstorfer) **comb. n.**

*Nacaduba palmyra cythora* Fruhstorfer, 1916 : 137, Batjan (Type !), **syn. n.**

*Nacaduba palmyra eugenea* Fruhstorfer, 1916 : 137, Obi (Type !), **syn. n.**

*Nacaduba valentina* Grose Smith, 1895 : 508, Amboina (♀ nec. ♂), (Allotype !), **syn. n.**

Darker on the under surface than Papuan *lineata* ; the males being a rich sooty brown. The white patch on the fore wing of the female is restricted.

The series from Batjan and Obi do not differ externally, and as far as can be seen from the few examples available, neither do specimens from Ceram, Amboina and Tenimber.

Distribution. Batjan, Obi, Ceram, Amboina, Buru and Tenimber.

(ii) ***E. lineata meiranganus*** (Röber) **comb. n.**

*Plebeius meiranganus* Röber, 1886 : 65, Aru.

*Plebeius fatureus* Röber, 1886 : 66, Aru, **syn. n.**

*Nacaduba palmyra vaneeckeii* Fruhstorfer, 1916 : 138, Snow Mts. (Type !), **syn. n.**

*Nacaduba palmyra thadmor* Fruhstorfer, 1916 : 138, New Guinea, Vulcan, Dampier, **syn. n.**

Distribution. Aru, Key, New Guinea, Dampier, Vulcan and Admiralty Is.

(iii) ***E. lineata insularis*** **ssp. n.**

The upperside in both sexes does not differ materially from that of the foregoing race, but the tornal orange lunule on the underside of the hind wing is always larger, and is often more than twice the width of that of the New Guinea insect. The white markings in the disc and the submarginal region of the underside in the female are purer brighter white, making the whole pattern stand out more clearly than in any other race.

Holotype ♂, LOUISIADE ARCHIPELAGO : Sudest I., Mt. Riu, 2,000 ft., vi.1916 (*Eichhorn Bros.*), B.M. Type No. Rh. 16602.

Allotype ♀ as holotype, B.M. Type No. Rh. 16603.

Distribution. Trobriand Islands, D'Entrecasteau and Louisiade Archipelagos.

(iv) *E. lineata uluensis* (Ribbe) **comb. n.**

*Nacaduba meiranganus* var. *uluensis* Ribbe, 1899 : 230, pl. 4, fig. 6, Neu Pommern.

Compared with the preceding races, the male is of a purer grey-blue tone above. The female has all the dark portions of the wings of a more greyish hue, the white area on the fore wing is restricted as is that of *cythora*, and the basal blue on the hind wing extends well beyond the end of the cell before merging into the grey distal area. Beneath in both sexes, the orange tornal lunule is small like that of *meiranganus*.

Distribution. New Britain, New Ireland, New Hanover, French Islands, St. Matthias and Squally Islands.

(v) *E. lineata vincula* (Druce) **comb. n.**

*Nacaduba vincula* Druce, 1891 : 363, pl. 31, fig. 18, Solomons (Type !).

Recognizable in the male by the very wide median band on the fore wing beneath, and in the female by the small white areas of the fore wing on the upperside, and the reduction of the basal blue on all wings, which gives the insect a rather drab appearance.

Distribution. Solomon Islands : Guadalcanar, Guizo, San Christobal, New Georgia, Bougainville, Isobel, Gela, Kulambranga and Fauro.

(vi) *E. lineata lineata* (Murray) **stat. n.**

(Text-figs. 76, 77, 84, 85)

*Lycaena lineata* Murray, 1874 : 524, pl. 10, fig. 9, Queensland.

The female has a bigger white patch on the fore wing than in any other race.

Distribution. Queensland.

*Erysichton palmyra* (Felder).

The androconia are of the normal battledore shape, and have 16 to 17 ribs. The male claspers are short, oval in shape, and furnished at the apex with an inwardly directed point.

(i) *E. palmyra tasmanicus* (Miskin) **stat. n.**

*Lycaena tasmanicus* Miskin, 1890 : 40, Tasmania (sic.).

*Lycaena elaborata* Lucas, 1900 : 137, Brisbane, **syn. n.**

The underside in both sexes is warm reddish brown. A series of nine males from Tenimber also exhibit this character.

Distribution. Queensland, Tenimber.

(ii) *E. palmyra palmyra* (Felder)

(Text-figs. 75 and 83)

*Lycaena palmyra* Felder, 1860 : 458, Amboina (Type !).

*Nacaduba valentina* Grose Smith, 1895 : 508, Amboina (♂ nec. ♀), (Type !), **syn. n.**

*Nacaduba poecilta* Holland, 1900 : 74, Buru, **syn. n.**

*Nacaduba hyperesia* Fruhstorfer, 1916 : 139, Obi (Type !).

The sooty brown underside in the male readily distinguishes this from the Australian race. Only three females (from Ceram) are available ; they are pale grey beneath, with a much more regular arrangement of the dark banding.

Distribution. Amboina, Ceram, Batchian, Obi, Mefor I. and Biak.

(iii) *E. palmyra coelia* (Grose Smith)*Nacaduba coelia* Grose Smith, 1894 : 573, Humbolt Bay (Type !).*Nacaduba subvariegata* Rothschild, 1915 : 392, Vulcan I. (Type !), **syn. n.**

In the male fore wing above, the marginal band is much wider than in the other races ; it increases in width towards the apex, where it attains a width of from 2 to 3 mm. Beneath, the general appearance is like that of the nominate race, but the distal area in all wings is more extensively washed with white. The female is similar to that sex of the nominate race, but its underside markings are darker.

Distribution. Aru, Waigeu and New Guinea.

(iv) *E. palmyra clara* **ssp. n.**

(Pl. 2, figs. 20-21)

The male is larger than that of any other race ; it measures 17 mm. from base to apex of the fore wing. Above, the colour is clear grey-blue, clearer and brighter than in *p. palmyra*, and the fringes are only lightly checkered at the vein ends. Beneath, very dark blackish brown, it is without any whitish washing in the distal area.

Holotype ♂, BISMARCK ARCHIPELAGO: New Britain, Talesea, ii. 1925 (*A. F. Eichhorn*), B.M. Type No. Rh. 16604.

(v) *E. palmyra lateplaga* **ssp. n.**

(Pl. 2, fig. 22)

Two male specimens from the Solomon Islands suggest a parallel development with *E. lineata vincula*, also from that area. Like that insect, they display on the underside a marked widening of the median band, a greater development of the orange tornal lunule on the hind wing, and a less produced, less acute apex of the fore wing, than is found in the other races. As far as can be ascertained from the rather tattered material, the colour above, and the fringes, are like those of the nominate race. Beneath, as well as the differences mentioned, the distal whitening is reduced to the edging of the submarginal spots and lunules.

Holotype ♂, SOLOMON ISLANDS: Florida I., i. 1901 (*Meek*), B.M. Type No. Rh. 16605.

Other material. Rubiana I., 1 ♂.

***Erysichton albiplaga* sp. n.**

(Pl. 2, figs. 5-8)

Genitally no difference can be found between this species and *E. palmyra*, but in view of the great divergence in external characters it is deemed advisable to treat them as distinct species.

The male is similar in shape to *palmyra* ; its upperside is blue-lavender of sufficient transparency to allow the white transverse band on the underside to show through on all wings. On the secondaries, a double black submarginal spot in cellule 1 is followed inwardly by a dusky patch ; there is a larger single spot in cellule 2, and indications of submarginal spots appear faintly in all cellules to the apex ; these spots are bordered outwardly by pale interneural lines. All wings are bordered by a fine dark marginal line. The female is shining blue at the base of all wings ; this colour extends on the fore wing over the lower half of the discoidal cell, just reaches the base of area 2, and covers the basal  $\frac{1}{3}$  of area 1. On the hind wing, its clearly defined outer edge runs in an almost straight line from the costa, through the points of origin of veins 7 and 2, to the hind margin. Then follows a broad white band, reaching from area 5 on the fore wing to the hind margin on the hind wing. On the fore wing, a black costal

band extends into the upper half of the cell, and to the apex, where it meets a wide marginal band of at least 4 mm. A similar marginal band on the hind wing is suffused inwardly with whitish blue scales where it meets the distal edge of the white band. Blue encircled dark spots appear in areas 1 to 3, and are faintly indicated in areas 4 to 6. The fringes in both sexes are white, checkered with fuscous at the vein-ends. Beneath the male is sooty brown, prominently marked with a wide white transverse band, which extends from just below the fore wing costa to the hind margin on the hind wing; it is 3 mm. at its greatest width, but tapers towards both extremities. Two undulating fine white lines traverse the cell of the fore wing; the outer line is continued across both wings. A more definite whitish line borders the inner edge of the discoidal lunule. Beyond the broad white band is a median band of spots, darker than the ground, and finely outlined with white on their convex distal edges. A series of submarginal spots is bordered internally by a corresponding series of heavy dark lunules; both series are finely margined with white. The tornal spot on the hind wing is black, flecked with metallic green scales, and narrowly edged inwardly with golden yellow. The spot in cellule one is similar but smaller. The fringes are spotted as on the upperside. In the female, the pattern is basically the same, but the white band extends to 5 mm.

Holotype ♂, BISMARCK ARCHIPELAGO: New Hanover, ii-iii. 1923 (*A. S. Meek*), B.M. Type No. Rh. 16606.

Allotype ♀, as Holotype, B.M. Type No. Rh. 16607.

### *CATOPYROPS* Toxopeus

*Catopyrops* Toxopeus, 1930: 146.

Type-species: *Lycaena ancyra* Felder.

Toxopeus included *rita* Grose Smith and *florinda* Butler, as subspecies of *ancyra*. Eliot 1956: 37 pointed out the specific distinctness of *rita*, and there can be no doubt that *florinda*, with its subspecies *estrella* Waterhouse, and the new subspecies described below, constitute a third species. Reference to the genitalia figures should be sufficient to substantiate this. *C. keiria* Druce and *C. kokopona* Ribbe both exhibit divergent genitalia, and it is with some hesitation that they are included in the genus.

#### *Catopyrops ancyra* (Felder)

##### (i) *C. ancyra aberrans* (Elwes)

*Nacaduba aberrans* Elwes, 1892: 626, pl. 44, fig. 6, E. Pegu (Type!).

##### (ii) *C. ancyra almora* (Druce)

*Cupido almora* Druce, 1873: 349, pl. 32, fig. 7, Borneo (Type!).

*Nacaduba pseustis* Doherty, 1891: 182, Borneo.

##### (iii) *C. ancyra hyperpseustis* (Toxopeus)

*Nacaduba ancyra hyperpseustis* Toxopeus, 1929: 210, Pulo Weh.

##### (iv) *C. ancyra exponens* (Fruhstorfer)

*Nacaduba ancyra exponens* Fruhstorfer, 1916: 124, "Cocos Inseln (Holl. Klappereiland)."

##### (v) *C. ancyra nicevillei* Toxopeus

*Catopyrops ancyra nicevillei* Toxopeus, 1930: 147, pl. 4, fig. 2, NE. Sumatra.

##### (vi) *C. ancyra austrojavana* Toxopeus

*Catopyrops ancyra austrojavana* Toxopeus, 1930: 147, pl. 4, fig. 5, a-b-c, E. Java.

(vii) *C. ancyra subfestivus* (Röber)

*Plebeius subfestivus* Röber, 1886 : 64, pl. 4, fig. 33, Aru, Ceram, Celebes (part).

*Nacaduba ancyra subfestivus* Röber ; Fruhstorfer, 1916 : 123, Celebes (part).

*Catopyrops ancyra duplicata* Toxopeus, 1930 : 149, pl. 4, fig. 13a-b, Kalawara, Centr. Celebes.

Fruhstorfer restricted this name to the Celebes race with grey-brown underside and dark markings ; he also mentioned other examples with whitish undersides and red-brown markings, the latter would almost certainly be what has since been described as *C. rita bora* by Col. Eliot. Toxopeus also had both species ; he treated *bora* as *ancyra subfestivus* and gave true *subfestivus* the name *duplicata*.

(viii) *C. ancyra ancyra* (Felder)

(Text-figs. 78 and 87)

*Lycaena ancyra* Felder, 1860 : 457, Amboina (Type !).

(ix) *C. ancyra tuala* Toxopeus

*Catopyrops ancyra tuala* Toxopeus, 1930 : 148, pl. 4, fig. 10, Toeal, Key.

(x) *C. ancyra mysia* (Waterhouse & Lyell)

*Nacaduba ancyra mysia* Waterhouse & Lyell, 1914 : 96, Prince of Wales Island.

*Nacaduba ancyra vanheurni* v. Eecke, 1924 : 41, Dutch New Guinea.

(xi) *C. ancyra complicata* (Butler)

*Lampides complicata* Butler, 1882 : 150, Duke of York Island (Type !).

(xii) *C. ancyra procella* **ssp. n.**

(Pl. 1, fig. 21)

This subspecies is remarkable for the pale silver-grey tone of the underside, which is only equalled by that of *C. ancyra ligamenta* Druce from the other end of the Solomon chain ; it contrasts strongly with the brown colour to be found on that surface of *C. ancyra complicata* and *C. ancyra amaura*. Above, the male does not differ from these races. The female is pale shining grey-blue on all wings ; the dusky marginal areas of the fore wing are somewhat restricted, and the submarginal series of spots and lunules on the hind wing are fine, but clearly marked ; the orange crescent in area 2 is obsolescent. Beneath, the brown-grey markings are all reduced in width, and the orange crescent, though present, is considerably reduced. Length of fore wing : male 13-14 mm. ; female 11-14 mm.

Holotype ♂, BISMARCK ARCHIPELAGO : Squally Island (1° 40' S., 150° 30' E.), viii. 1923 (*A. F. Eichhorn*), B.M. Type No. Rh. 16608.

Allotype ♀, as holotype, B.M. Type No. Rh. 16609.

Other material. As holotype, 2 ♂.

(xiii) *C. ancyra distincta* **ssp. n.**

(Pl. 1, fig. 22)

At once recognizable in both sexes by the appearance of the underside, in which the grey-brown markings are all sharply delineated on a silvery white ground. Not distinguishable from *amaura* on the upper surface.

Holotype ♂, SOLOMON ISLANDS : Nissan Island (4° 30' S., 154° 20' E.), vii-ix. 1924 (*A. F. Eichhorn*), B.M. Type No. Rh. 16610.

Allotype ♀, as holotype, B.M. Type No. Rh. 16611.

Other material. As holotype, 2 ♂.

(xiv) *C. ancyra amaura* (Druce)

*Nacaduba amaura* Druce, 1891 : 361, pl. 31, fig. 10, Alu, Rubiana, and Malaita (Type !).

(xv) *C. ancyra maniana* (Druce)*Nacaduba maniana* Druce, 1891 : 361, pl. 31, fig. 9, Ulaua I. (Type!).(xvi) *C. ancyra ligamenta* (Druce)*Nacaduba ligamenta* Druce, 1891 : 361, pl. 31, figs. 11-12, Ugi I. (Type!).*Catopyrops rita* (Grose Smith)(i) *C. rita bora* Eliot*Catopyrops rita bora* Eliot, 1956 : 37, S. Celebes (Type!).(ii) *C. rita altijavana* Toxopeus **comb. n.***Catopyrops ancyra (subfestivus) altijavana* Toxopeus, 1930 : 148, Java (Malang.).(iii) *C. rita rita* (Grose Smith)

(Text-figs. 79 and 89)

*Nacaduba rita* Grose Smith, 1895 : 508, Wetter (Type!).*Catopyrops florinda* (Butler)(i) *C. florinda florinda* (Butler)

(Text-figs. 81 and 88)

*Lampides florinda* Butler, 1877 : 354, Lifu (Type!).(ii) *C. florinda estrella* (Waterhouse & Lyell) **comb. n.***Nacaduba ancyra estrella* Waterhouse & Lyell, 1914 : 96, fig. 312, Cooktown.*Nacaduba ancyra halys* Waterhouse, 1934 : 416, New South Wales, **syn. n.**(iii) *C. florinda parva* **ssp. n.**

This insular dwarf race from Timor and some nearby islands is consistently smaller than *estrella* or the nominate race; its fore wing only extends in length to from 10 to 12 mm., and its apex is less pointed. In the male, the dark margins of all wings are fine; the tornal spot on the hind wing is small, and the orange lunule is reduced or absent. The only female exhibits a marked extension of the purple-blue ground colour; this extends from the base, over the cell, and over all the discal area below vein 6, and as far as the submarginal lunules on all wings. A dusky smear closes the cell on each wing, and the median bands can be seen shining through from below. The costal regions and the submarginal markings are fuscous; the latter are clearly marked on the hind wings, but are only indicated on the fore wings. Beneath in both sexes, the pattern is similar to that of the nominate race, but less emphasized. Superficially this subspecies bears considerable resemblance to *C. ancyra tuala*, but the male genitalia are of the characteristic *florinda* pattern, with a long and curved extension on the clasper.

Holotype ♂, TIMOR : Oinainisa, xi-xii.1892 (*W. Doherty*), B.M. Type No. Rh. 16612.

Allotype ♀, as holotype, B.M. Type No. Rh. 16613.

Other material. TIMOR : Atapupu, viii.1897 (*Everett*), 2 ♂; as holotype, 1 ♂; Dili, v.1892 (*Doherty*), 1 ♂. SOUTH WEST ISLANDS : Moa I., xii.1902 (*Kuhn*), 9 ♂; Kisser I. (*Kuhn*), 2 ♂; Wetter I., v.1892, 2 ♂.

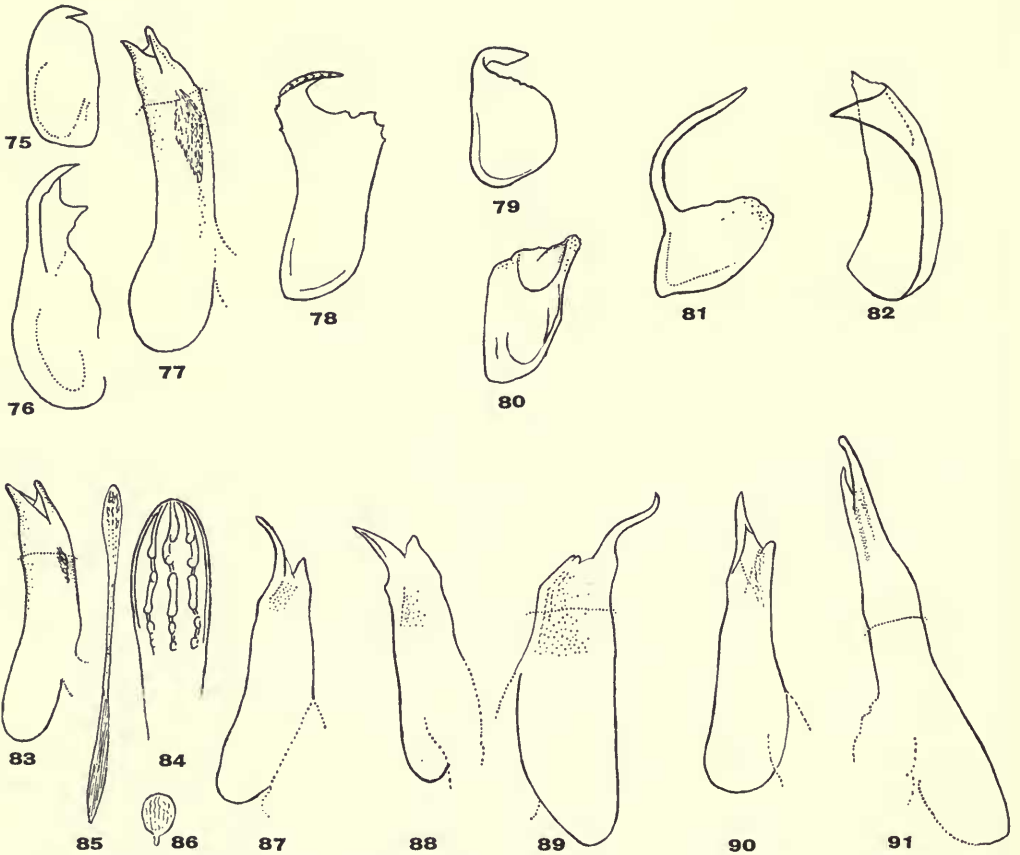
*Catopyrops keiria* (Druce)

(Text-figs. 80 and 91)

*Nacaduba keiria* Druce, 1891 : 362, pl. 31, figs. 13-14, Solomons (Type!).

***Catopyrops kokopona* (Ribbe) comb. n.**

(Text-figs. 82 and 90)

*Nacaduba kokopona* Ribbe, 1899 : 232, pl. 4, fig. 7, Neu Pommern.**PETRELAEA** Toxopeus*Petrelaea* Toxopeus, 1929 : 242.Type-species : *Nacaduba dana* de Niceville.FIGS. 75-76. ♂, clasper : 75, *Erysichton palmyra* ; 76, *E. lineata*.FIG. 77. ♂, aedeagus : *Erysichton lineata*.FIGS. 78-82. ♂, clasper : 78, *Catopyrops ancyra* ; 79, *C. rita* ; 80, *C. keiria* ; 81, *C. florinda* ; 82, *C. kokopona*.FIG. 83. ♂, aedeagus : *Erysichton palmyra*.FIGS. 84-86. ♂, *androconia* : 84, 85, *Erysichton lineata* ; 86, *Ionolyce helicon* (same scale as 85).FIGS. 87-91. ♂, aedeagi : 87, *Catopyrops ancyra* ; 88, *C. florinda* ; 89, *C. rita* ; 90, *C. kokopona* ; 91, *C. keiria*.



*Petrelaea dana* (de Niceville)

(Text-figs. 18 and 45)

- Nacaduba dana* de Niceville, 1883 : 73, pl. 1, fig. 15, Bhutan.  
*Plebeius tombugensis* Röber, 1886 : 63, E. Celebes.  
*Lycaena ardeola* Staudinger, 1889 : 97, Palawan.  
*Nacaduba obscura* Grose Smith, 1894 : 574, Humbolt Bay (Type !).  
*Nacaduba ardates* var. *dima* Rhé Philipe, 1911 : 764, Naga Hills (Type !).  
*Nacaduba ios* Waterhouse & Lyell, 1914 : 99, figs. 856-857, Thursday Island.  
*Nacaduba subdubiosa* Rothschild, 1915 : 29, Utakwa R. (Type !).  
*Petrelaea dana varia* Toxopeus, 1929 : 242, Java.

The unique structure of the male organs of this species confirms the action of Toxopeus in separating *Petrelaea* from *Nacaduba*. In spite of the wide range of the species—India, Burma, Malaysia, to New Guinea and the Solomons—it has not been found possible to define any geographical races or subspecies, and so the various names that have been put forward are listed as synonyms.

## BIBLIOGRAPHY

- BETHUNE-BAKER, G. T. 1906. New Species of Lycaenidae from British New Guinea. *Ann. Mag. nat. Hist.* (7) **17** : 100-104.  
 — 1911. Descriptions of New Species of Lepidoptera from New Guinea. *Ann. Mag. nat. Hist.* (8) **8** : 542-544.  
 — H. Sauter's Formosa-Ausbeute : Ruralidae (Lep.). *Ent. Mitt.* **3** : 123-128.  
 BUTLER, A. G. 1875. On a Collection of Butterflies from the New Hebrides and Loyalty Islands. *Proc. zool. Soc. Lond.* p. 610-619, 1 pl.  
 — 1877. On a Collection of Lepidoptera obtained by the Rev. S. J. Whitmee from Lifu (Loyalty Group), with descriptions of New Species. *Ann. Mag. nat. Hist.* (4) **20** : 348-359.  
 — 1882. Description of New Species of Lepidoptera chiefly from Duke of York Island and New Britain. *Ann. Mag. nat. Hist.* (5) **10** : 149-160.  
 — 1883. New Lepidoptera from the Viti Islands. *Ann. Mag. nat. Hist.* (5) **12** : 389-391.  
 CORBET, A. S. 1938. A Revision of the Malayan Species of the *Nacaduba* Group of Genera (Lepidoptera : Lycaenidae). *Trans. R. ent. Soc. Lond.* **87** : 125-146, 1 pl., 26 text-figs.  
 — 1947. *Nacaduba ollyetti*. A New Species of Lycaenid from Ceylon. *Proc. R. ent. Soc. Lond.* (B) **16** : 1-2, 2 text-figs.  
 — 1948. Revisional Notes on Oriental Lycaenidae. (ii). *Proc. R. ent. Soc. Lond.* (B) **17** : 98-102.  
 DISTANT, W. L. 1886. Contributions to the Knowledge of Malayan Entomology, part iv. *Ann. Mag. nat. Hist.* (5) **17** : 251-254.  
 DOHERTY, W. 1891. The Butterflies of Sumba, and Sumbawa. *J. Asiat. Soc. Beng.* **60** : 141-197, 1 pl.  
 DRUCE, H. 1873. A List of the Collections of Diurnal Lepidoptera made by Mr. Lowe in Borneo. *Proc. zool. Soc. Lond.* pp. 337-361.  
 DRUCE, HAMILTON H. 1887. Descriptions of four New Species of Lycaenidae. *Ent. mon. Mag.* **23** : 203-205.  
 — 1891. On the Lycaenidae of the Solomon Islands. *Proc. zool. Soc. Lond.* pp. 357-372, 2 pls.  
 — 1892. A List of the Lycaenidae of the South Pacific Islands east of the Solomon Group. *Proc. zool. Soc. Lond.* pp. 434-446, 1 pl.  
 — 1902. New and little-known Butterflies of the family Lycaenidae. *Proc. zool. Soc. Lond.* (ii), pp. 112-121.  
 VAN ECKE, R. 1924. List of Lepidoptera, collected by Mr. W. C. van Heurn during an exploration-expedition in Dutch North New Guinea. *Nova Guinea* **15** : 33-56, 1 pl.

- ELIOT, J. N. 1955. Notes on the *Nacaduba hermus* (C. Felder). Complex (Lepidoptera : Lycaenidae). *Proc. R. ent. Soc. Lond.* (B) **24** : 153-158.
- 1956. New and little known Rhopalocera from the Oriental Region. *Bull. Raffles Mus.* **27** : 32-38, text-figs.
- ELWES, H. J. 1892. On Butterflies collected by Mr. W. Doherty in the Naga and Karen Hills and in Perak (part ii). *Proc. zool. Soc. Lond.* pp. 617-664, 2 pls.
- EVANS, W. H. 1910. A List of the Butterflies of the Palni Hills. *J. Bombay nat. Hist. Soc.* **20** : 380-391.
- 1910. Additions and corrections to certain local Butterfly Lists, with the description of a New Species. *J. Bombay nat. Hist. Soc.* **20** : 423-427.
- 1912. A List of Indian Butterflies (continued). *J. Bombay nat. Hist. Soc.* **21** : 969-1008.
- 1925. The Identification of Indian Butterflies (part vii). *J. Bombay nat. Hist. Soc.* **30** : 610-639, 1 pl.
- 1932. *The Identification of Indian Butterflies*, 2nd Edition, x + 454 pp., 32 pls., 9 text-figs., Madras.
- FELDER, C. 1860. Lepidopterorum Amboinensium. *S-B. Akad. Wiss. Wien*, **40** : 449-462.
- 1862. Verzeichniss der von den Naturforschern der K. K. Fregatte Novara (Macrolep). *Ver. zool.-bot. Ges. Wien*, **12** : 473-496.
- FELDER, C. & R. 1865-67. *Reise der Osterreichischen Fregatte Novara*, Band 2 (Rhopalocera), vi + 548 pp., 137 pls., Wien.
- FELDER, R. 1868. Diagnosen Neuer von E. Baron v. Ransonnet in Vorder-Indien gesammelter Lepidopteren. *Verh. zool.-bot. ges. Wien*, **18** : 281-286.
- FRUHSTORFER, H. 1915. Neue Lycaenidenformen aus dem Rijksmuseum in Leiden. *Zool. Meded.* **1** : 141-148.
- 1916. Revision der Gattung *Nacaduba*. *Zoöl. Meded.* **2** : 103-140.
- GROSE SMITH, H. 1894. An account of a collection of Diurnal Lepidoptera made by Mr. Doherty... (part iii). *Novit. zool.* **1** : 571-583.
- 1895. Descriptions of New Species of Butterflies, captured by Mr. Doherty in the Islands of the Eastern Archipelago (part ii). *Novit. zool.* **2** : 505-514.
- 1897. Descriptions of further new Species of Butterflies from the Pacific Islands. *Ann. Mag. nat. Hist.* (6) **20** : 515-518.
- HERRICH-SCHAEFFER, G. A. W. 1869. Neue Schmetterlinge aus dem Museum Godeffroy in Hamburg. *Stettin. ent. Ztg.* **30** : 65-80.
- HOLLAND, W. J. 1900. The Lepidoptera of Buru (part i)—Rhopalocera. *Novit. zool.* **7** : 54-85.
- HOPKINS, G. H. E. 1927. Butterflies of Samoa and some neighbouring Island-groups, 64 pp., 4 pls., 1 text-fig. In *Insects of Samoa*, 3. B.M. (N.H.).
- HORSFIELD, T. 1828-1829. *A Descriptive Catalogue of the Lepidopterous Insects in the Museum of the Honourable East India Company*, 144 pp., 8 pls., London.
- JOICEY, J. J., & TALBOT, G. 1916. New Lepidoptera from Dutch New Guinea. *Ann. Mag. nat. Hist.* (8) **17** : 68-90, 4 pls.
- 1917. New Lepidoptera from Waigeu, Dutch New Guinea, and Biak. *Ann. Mag. nat. Hist.* (8) **20** : 216-229.
- KHEIL, N. M. 1884. *Die Rhopalocera der Insel Nias*. 37 pp., 5 pls., Berlin.
- LUCAS, T. P. 1900. New Species of Queensland Lepidoptera. *Proc. roy. Soc. Qd.* **15** : 137-161.
- MARTIN, L. 1895. *Einige neue Tagschmetterlinge von Nordost-Sumatra*, 7 pp., München.
- MISKIN, W. H. 1890. Descriptions of hitherto undescribed Australian Lepidoptera (Rhopalocera), principally Lycaenidae. *Proc. Linn. Soc. N.S.W.* **5** : 29-43.
- MOORE, F. (in Horsfield). 1857. *A Catalogue of the Lepidopterous Insects in the Museum of the Hon. East-India Company*, **1**, 278 pp., 12 pls. London.
- 1874. Descriptions of New Asiatic Lepidoptera. *Proc. zool. Soc. Lond.* pp. 565-579, 2 pls.
- 1877. Descriptions of Ceylon Lepidoptera. *Ann. Mag. nat. Hist.* (4) **20** : 339-348.
- 1880-81. *The Lepidoptera of Ceylon*, **1**, 190 pp., 71 pls. London.
- 1884. Descriptions of some New Asiatic Lepidoptera ; chiefly from Specimens contained in the Indian Museum, Calcutta. *J. Asiat. Soc. Beng.* **53** : 16-52.

- MURRAY, REV. R. P. 1874. Descriptions of some New Species belonging to the Genus *Lycaena*. *Trans. ent. Soc. Lond.* pp. 523-529, 1 pl.
- NICEVILLE, L. DE. 1883. On new and little known Rhopalocera from the Indian Region. *J. Asiat. Soc. Beng.* **52** : 65-91, 3 pls.
- 1885. Descriptions of some New Indian Rhopalocera. *J. Asiat. Soc. Beng.* **54** : 117-124, 1 pl.
- 1895. On new and little known Butterflies from the Indo-Malayan Region. *J. Bombay nat. Hist. Soc.* **9** : 259-321, 4 pls.
- 1895. On new and little known Lepidoptera from the Indo-Malayan Region. *J. Bombay nat. Hist. Soc.* **10** : 13-40, 3 pls.
- 1902. On new and little known Butterflies mostly from the Oriental Region. *J. Bombay nat. Hist. Soc.* **14** : 236-251, 1 pl.
- See also Wood-Mason & de Niceville.
- ORMISTON, W. 1924. *The Butterflies of Ceylon*, 143 pp., 7 pls. Colombo.
- PIEPERS, M. C., & SNELLEN, P. C. T. 1918. *The Rhopalocera of Java* (Erycinidae : Lycaenidae), xlv + 112 pp., 9 pls. The Hague.
- RHÉ PHILIPPE, G. W. V. DE. 1911. Notes on some Butterflies from the Indian Region. *J. Bombay nat. Hist. Soc.* **20** : 753-769.
- RIBBE, C. 1899. Beiträge zur Lepidopteren-Fauna des Bismarck- und Salomo-Archipels in Süd-See. *Iris*, **12** : 219-260.
- RILEY, N. D., & GODFREY, E. J. 1925. New Rhopalocera from Siam and Hainan. *Entomologist*, **58** : 140-143.
- RILEY, N. D., 1944. Spolia Mentawiensia : Rhopalocera, Lycaenidae and Riordinidae. *Trans. R. ent. Soc. Lond.* **94** : 247-271, 2 pls.
- RÖBER, J., 1886. Neue Tagsschmetterlinge der Indo-Australischen Fauna. *Iris*, **1** : 45-72.
- 1891. Beitrag zur Kenntniss der Indo-Australischen Lepidopterenfauna. *Tijdschr. Ent.* **34** : 261-334.
- 1892. Plates for above. *Tijdschr. Ent.* **35**, pls. 3-6.
- ROTHSCHILD, HON. W., 1915. On Lepidoptera from the Islands of Ceram (Seran), Buru, Bali, and Misol. *Novit. zool.* **22** : 105-144.
- 1915. *Lepidoptera of the British Ornithologists' Union and Wollaston Expeditions in the Snow Mountains, Southern Dutch New Guinea*. Macrolepidoptera. 182 pp., 2 pls. Tring.
- ROTHSCHILD, LORD, 1915. On the Lepidoptera in the Tring Museum sent by Mr. A. S. Meek from the Admiralty Islands, Dampier, and Vulcan Islands (continued). *Novit. zool.* **22** : 387-402.
- SEMPER, G., 1879. Beitrag zur Rhopalocerenfauna von Australien. *J. Mus. Godeffroy*, **5** : 138-194, 2 pls.
- 1886-92. *Die Schmetterlinge der Philippinischen Inseln*, **1** (Rhopalocera), 380 pp., 49 pls. Wiesbaden.
- SHIROZU, T., 1952. New or little known Butterflies from the North Eastern Asia, with some synonymic notes. Pt. I. *Sieboldia*, Fukuoka, **1** : 11-37, 11 pls.
- SNELLEN, P. C. T., 1892. Nieuwe Javaansche Dagvlinders. *Tijdschr. Ent.* **35** : 133-147.
- 1896. Beschrijving van twee nieuwe soorten van Lycaeniden. *Tijdschr. Ent.* **39** : 91-94.
- 1901. *Lycaena donina* nova spec. *Tijdschr. Ent.* **43** : 262-264.
- See also Piepers & Snellen.
- STAUDINGER, O., 1889. Lepidopteren der Insel Palawan. *Iris*, **2** : 3-180.
- STRAND, E., 1910. Schmetterlinge aus Zentral und West-Sumatra. *Iris*, **24** : 190-208.
- SWINHOE, C., 1916. New Indo-Malayan Lepidoptera. *Ann. Mag. nat. Hist.* (8) **18** : 209-221.
- TOXOPEUS, L. J., 1927. Lycaenidae Australasiae iii. *Treubia*, **9** : 423-435.
- 1929. Beschreibung einiger Schmetterlinge (Riordinidae und Lycaenidae) von Pulu Weh bei Sumatra. *Tijdschr. Ent.* **72** : 204-214.
- 1930. *De soorte als functie van Plaats en Tijd*, 198 pp., 4 pls. Amsterdam.
- WATERHOUSE, G. A., & LYELL, G., 1914. *The Butterflies of Australia*, 238 pp., 888 figs. Sydney.

- WATERHOUSE, G. A., 1932, *What Butterfly is That?* 291 pp., 34 pls. Sydney.
- 1934, Notes on Australian Lycaenidae, vii. *Proc. Linn. Soc. N. W.* 59 : 416-420.
- WOOD-MASON, J., & DE NICEVILLE, L., 1880, List of Diurnal Lepidoptera from Port Blair, Andaman Islands. *J. Asiat. Soc. Beng.* 49 : 223-243, 1 pl.
- 1881, List of Diurnal Lepidoptera inhabiting the Nicobar Islands. *J. Asiat. Soc. Beng.* 50 : 224-238.
- 1886, List of the lepidopterous Insects collected in Cachar by Mr. J. Wood Mason, part ii— Rhopalocera. *J. Asiat. Soc. Beng.* 55 : 343-392, 4 pls.

## INDEX

(Synonyms are in italics.)

- aberrans (Elwes), *Catopyrops ancyra* ssp., 105  
*agorda* Fruhst., *Nacaduba kurava* syn., 81  
akaba (Druce), *Nacaduba berenice* ssp., 78  
albescens ssp. n., *Nacaduba astarte*, 77  
albida Riley & Godfrey, *Nacaduba angusta*,  
 ssp., 70  
albiplaga sp. n., Erysichton, 104  
albofasciata (Röber), *Nacaduba kurava* ssp.,  
 82  
almora (Druce), *Catopyrops ancyra* ssp., 105  
altijavana Tox., *Catopyrops rita* ssp., 107  
aluta (Druce), *Prosotas*, 90  
alutina Fruhst., *Prosotas aluta* ssp., 90  
amaura (Druce), *Catopyrops ancyra* ssp., 106  
ancyra (Felder), *Catopyrops*, 105  
andamanica Fruhst., *Nacaduba pactolus*  
 ssp., 71  
angusta (Druce), *Nacaduba*, 70  
antalcidas Fruhst., *Nacaduba pactolus* ssp.,  
 72  
aphana Fruhst., *Nacaduba berenice* ssp., 78  
aphya Fruhst., *Nacaduba berenice* ssp., 78  
apira Fruhst., *Nacaduba berenice* ssp., 78  
*aratus* (Moore), *Nacaduba kurava* syn., 81  
ardates (Moore), *Prosotas nora* ssp., 90  
*ardeola* (Staudinger), *Petrelaea dana* syn., 109  
ariitia Fruhst., *Nacaduba kurava* ssp., 82  
armillata (Butler), *Nacaduba biocellata* ssp.,  
 88  
asaga Fruhst., *Nacaduba*, 74  
asakusa Fruhst., *Nacaduba beroe* ssp., 84  
astapa Fruhst., *Nacaduba kurava* ssp., 81  
astarte (Butler), *Nacaduba*, 76  
*ataranica* Tox., *Nacaduba kurava euplea*  
 syn., 81  
atra sp. n., *Prosotas*, 92  
*atratus* (Horsfield), *Nacaduba kurava* syn., 81  
*atromarginata* Druce, *Nacaduba angusta*  
 pamela syn., 71  
auletes (Waterh. & Lyell), *Prosotas nora* ssp.,  
 92  
austrojavana Tox., *Catopyrops ancyra* ssp.,  
 105  
azureus (Röber), *Nacaduba angusta* ssp., 71  
baliensis ssp. n., *Nacaduba biocellata*, 88  
bandana (Swinhoe), *Nacaduba kurava* ssp.,  
 82  
*basiatrata* (Strand), *Prosotas gracilis* ni syn.,  
 96  
baweana Fruhst., *Nacaduba kurava* ssp., 81  
belli Tox., *Nacaduba kurava canaraica* d. s. f.,  
 81  
berenice (H.-Schaeff.), *Nacaduba*, 78  
beroe (Felder), *Nacaduba*, 84  
bhutea (Nicev.), *Prosotas*, 95  
biakana ssp. n., *Nacaduba mallicollo*, 83  
bimaculosa Tox., *Nacaduba beroe* ssp., 84  
biocellata (Felder), *Nacaduba*, 87  
bora Eliot, *Catopyrops rita* ssp., 107  
brunnea (Evans), *Ionolyce helicon* ssp., 100  
brunnescens sp. n., *Ionolyce*, 101  
cajetani nom. n. (for *Prosotas rothschildi*  
 Tox.), *Nacaduba*, 79  
calauria (Felder), *Nacaduba*, 86  
caliginosa Druce, *Prosotas*, 97  
canaraica Tox., *Nacaduba kurava* ssp., 81  
caracalla (Waterh. & Lyell), *Ionolyce helicon*  
 ssp., 101  
carnania Fruhst., *Nacaduba berenice* ssp., 78  
*CATOPYROPS* Tox., 105  
cela Waterh. & Lyell, *Nacaduba pactolus* ssp.,  
 71  
ceramensis ssp. n., *Prosotas pia* ssp., 95  
cerbara Fruhst., *Nacaduba kurava* ssp., 81  
ceylonica Fruhst., *Nacaduba pactolus* ssp., 71  
*ceylonica* Fruhst., *Nacaduba sinhala* syn., 79  
cladara Holland, *Nacaduba*, 88  
clara ssp. n., Erysichton palmyra, 104  
coelestis (Nicev.), *Prosotas aluta* ssp., 90  
coelia (Grose Smith), Erysichton palmyra  
 ssp., 104  
complicata (Butler), *Catopyrops ancyra* ssp.,  
 106  
continentalis Fruhst., *Nacaduba pactolus*  
 ssp., 71  
cyaneira Fruhst., *Nacaduba kurava* ssp., 82  
cyaniris (Röber), *Nacaduba pactolus* ssp., 71  
cyclops Tox., *Prosotas noreia* ssp., 97  
cypria Tox., *Nacaduba calauria* ssp., 86  
cythora Fruhst., Erysichton lineata ssp., 102  
dana (Nicev.), *Petrelaea*, 109  
datarica (Snellen), *Prosotas*, 95

- deliana* (Snellen), *Nacaduba*, 87  
*deplorans* (Butler), *Nacaduba*, 87  
*dilata* (Evans), *Prosotas nora* ssp., 92  
*dima* (Rhé Philipe), *Petrelaea dana* syn., 109  
*distincta* ssp. n., *Catopyrops ancyra*, 106  
*dobbensis* (Röber), *Nacaduba berenice* ssp., 78  
*donina* (Snellen), *Prosotas gracilis* ssp., 96  
*dubiosa* (Semper), *Prosotas*, 96  
*duplicata* Tox., *Catopyrops ancyra subfestivus* syn., 106  
*dyopa* (H.-Schaeff.), *Nacaduba*, 86
- eborata* ssp. n., *Prosotas dubiosa*, 96  
*elaborata* (Lucas), *Erysichton palmyra tasmanicus* syn., 103  
*eliana* Fruhst., *Nacaduba berenice* ssp., 78  
*elioti* Corbet, *Nacaduba sanaya* ssp., 73  
*elioti* ssp. n., *Prosotas pia*, 94  
*ella* Tox., *Prosotas*, 95  
*elsa* (Grose-Smith), *Prosotas*, 96  
*ERYSICHTON* Fruhst., 102  
*estrella* (Waterh. & Lyell), *Catochrysops florinda* ssp., 107  
*eugenea* Fruhst., *Erysichton lineata cythora* syn., 102  
*euplea* Fruhst., *Nacaduba kurava* ssp., 81  
*euretes* Druce, *Nacaduba kurava* ssp., 82  
*evansi* Tox., *Nacaduba calauria evansi* syn., 86  
*evansi* Tox., *Nacaduba kurava euplea* d. s. f., 81  
*exponens* (Fruhst.), *Catopyrops ancyra* ssp., 105
- futureus* (Röber), *Erysichton lineata meiranganus* syn., 102  
*felderi* Rothschild, *Nacaduba cajetani* syn., 79  
*felderi* (Murray), *Prosotas*, 93  
*felsina* Waterh. & Lyell, *Nacaduba kurava* ssp., 81  
*florinda* (Butler), *Catopyrops*, 107  
*flumena* Fruhst., *Nacaduba angusta* ssp., 71  
*formosana* (Fruhst.), *Prosotas nora* ssp., 92  
*fulva* (Evans), *Prosotas nora* ssp., 92
- gemmata* Druce, *Nacaduba dyopa* syn., 87  
*georgi* Fruhst., *Nacaduba pavana* ssp., 72  
*gerydomaculata* (Rothschild), *Prosotas gracilis* syn., 96  
*glauca* (Snellen), *Nacaduba glauconia* syn., 86  
*glauconia* (Snellen), *Nacaduba*, 86
- glenis* Holland, *Nacaduba*, 88  
*gracilis* (Röber), *Prosotas*, 96  
*guizoensis* ssp. n. *Nacaduba novaehebridensis* 80  
*gythion* Fruhst., *Nacaduba beroe* ssp., 84
- hainani* Beth.-Bak., *Nacaduba pactolus* ssp., 71  
*halys* (Waterh. & Lyell), *Catopyrops florinda estrella* syn., 107  
*hampsonii* (Nicev.), *Prosotas noreia* ssp., 97  
*helicon* (Felder), *Ionolyce*, 100  
*hermus* (Felder), *Nacaduba*, 73  
*honorifice* Fruhst., *Nacaduba angusta* ssp., 71  
*hybrida* Toxopeus, *Prosotas dubiosa subardates* syn., 96  
*hyllus* (Waterh. & Lyell), *Ionolyce helicon* ssp., 101  
*hyperesia* (Fruhst.), *Erysichton palmyra* syn., 103  
*hyperpeustis* (Tox.), *Catopyrops ancyra* ssp., 105
- icena* Fruhst., *Nacaduba berenice* ssp., 78  
*illuensis* (Röber), *Nacaduba berenice* ssp., 78  
*indica* (Evans), *Prosotas dubiosa* ssp., 96  
*insularis* ssp. n., *Erysichton lineata*, 102  
*intricata* Corbet, *Nacaduba superusia lya* syn., 73  
*IONOLYCE* Tox., 100  
*ios* (Waterh. & Lyell), *Petrelaea dana* syn., 109  
*isana* Fruhst., *Nacaduba kurava* syn., 81
- javana* Tox., *Nacaduba beroe* ssp., 84  
*javanica* Tox., *Ionolyce helicon* ssp., 101  
*jedja* Fruhst., *Nacaduba beroe* ssp., 84
- keiria* (Druce), *Catopyrops*, 107  
*kerriana* Distant, *Nacaduba angusta* ssp., 70  
*kodi* (Evans), *Prosotas nora ardates* syn., 90  
*kokopona* (Ribbe), *Catopyrops*, 108  
*kondulana* (Evans), *Ionolyce helicon* ssp., 100  
*korene* Druce, *Nacaduba berenice* ssp., 78  
*kupu* (Kheil), *Prosotas nora* ssp., 92  
*kurava* (Moore), *Nacaduba*, 80
- latemarginata* ssp. n., *Nacaduba pendleburyi*, 74  
*lateplaga* ssp. n., *Erysichton palmyra*, 104  
*laura* Doherty, *Nacaduba kurava* ssp., 81  
*laurina* Fruhst., *Nacaduba kurava* ssp., 81

- lessina (Fruhst.), *Prosotas aluta* ssp., 90  
 ligamenta (Druce), *Catopyrops ancyra* ssp.,  
 107  
 limbura Fruhst., *Nacaduba angusta* ssp., 71  
 lineata (Murray), *Erysichton*, 102  
 lucana sp. n., *Nacaduba*, 83  
 lumpura (Corbet), *Prosotas dubiosa* ssp., 96  
 lutea (Martin), *Prosotas*, 97  
 lycoreia Fruhst., *Nacaduba pactolus* ssp., 71  
 lydia Fruhst., *Nacaduba kurava* ssp., 82  
 lysa Fruhst., *Nacaduba subperusia* ssp., 73  
*mackayensis* (Miskin), *Prosotas felderi* syn.,  
 93  
 macrophthalma (Felder), *Nacaduba pactolus*  
 ssp., 71  
 major Rothschild, *Nacaduba*, 84  
*major* Evans, *Nacaduba hermus vicania* syn.,  
 73  
 malayica Corbet, *Nacaduba calauria* ssp., 86  
 mallicollo Druce, *Nacaduba*, 82  
 maniana (Druce), *Catopyrops ancyra* ssp.,  
 107  
 maputi (Semper), *Nacaduba berenice* ssp., 78  
 marginata ssp. n., *Prosotas pia*, 94  
 markira ssp. n., *Nacaduba mallicollo*, 82  
 martha Eliot, *Nacaduba subperusia* ssp., 73  
 meiranganus (Röber), *Erysichton lineata*  
 ssp., 102  
 mentawica Riley, *Nacaduba kurava* ssp., 81  
 meraha (Fruhst.), *Prosotas nora* ssp., 92  
 merguiana (Moore), *Ionolyce helicon* ssp., 100  
 metallica (Fruhst.), *Nacaduba sanaya* ssp., 73  
 metriodes (Beth.-Bak.), *Paraduba*, 99  
 minima Tox., *Nacaduba beroe* ssp., 84  
 minja Fruhst., *Nacaduba hermus* ssp., 73  
 mioswara sp. n., *Nacaduba*, 83  
 mysia (Waterh. & Lyell), *Catopyrops ancyra*  
 ssp., 106  
 nabo Fruhst., *Nacaduba hermus* ssp., 73  
 NACADUBA Moore, 70  
 nađia Eliot, *Nacaduba subperusia* ssp., 73  
 naevia Tox., *Nacaduba sanaya* ssp., 73  
 nanda (Nicev.), *Prosotas aluta* ssp., 90  
 narovona Grose Smith, *Nacaduba astarte*  
 ssp., 77  
 neaira Fruhst., *Nacaduba pactolus* ssp., 71  
 nebulosa Druce, *Nacaduba*, 88  
 nelides (Nicev.), *Prosotas*, 90  
 nemana Fruhst., *Nacaduba kurava* ssp., 81  
 neon Fruhst., *Nacaduba beroe* ssp., 84  
 ni (Nicev.), *Prosotas gracilis* ssp., 96  
 niasica Tox., *Nacaduba kurava* ssp., 81  
 nicevillei Tox., *Catopyrops ancyra* ssp., 105  
 nicobarica Tox., *Nacaduba kurava sam-*  
*balanga* syn., 81  
 nicobaricus (Wood-Mason & Nicev.), *Naca-*  
*duba berenice* ssp., 78  
 niconia (Felder), *Nacaduba kurava perusia*  
 syn., 82  
 nissani ssp. n., *Nacaduba astarte* ssp., 77  
 nora (Felder), *Prosotas*, 90  
 noreia (Felder), *Prosotas*, 97  
 norina Tox., *Prosotas*, 95  
 novaehbridensis Druce, *Nacaduba*, 79  
*obscura* (Grose-Smith), *Petrelaea dana* syn.,  
 109  
 odon Fruhst., *Nacaduba pactolus* ssp., 71  
 ollyetti Corbet, *Nacaduba*, 74  
 ormistoni Tox., *Nacaduba berenice* ssp., 78  
 overdijkinki Tox., *Nacaduba glauconia* ssp.,  
 86  
 owgarra Beth.-Bak., *Paraduba*, 97  
*pacifica* Tox., *Nacaduba kurava* ssp., 82  
 pactolides Fruhst., *Nacaduba pactolus* ssp.,  
 71  
 pactolus (Felder), *Nacaduba*, 71  
 palmyra (Felder), *Erysichton*, 103  
 pamela Grose-Smith, *Nacaduba angusta*  
 ssp., 71  
 papuana sp. n., *Prosotas*, 93  
 PARADUBA Beth.-Bak., 97  
 parma Waterh. & Lyell, *Nacaduba kurava*  
 ssp., 81  
 parva ssp. n., *Catopyrops florinda*, 107  
 paska Eliot, *Nacaduba subperusia* ssp., 73  
 pavana (Horsfield), *Nacaduba*, 72  
 penangensis ssp. n., *Nacaduba pendleburyi*, 74  
 pendleburyi Corbet, *Nacaduba*, 74  
 perusia (Felder), *Nacaduba kurava* ssp., 82  
 PETRELAEA Tox., 108  
 philiaata (Fruhst.), *Prosotas aluta* ssp., 90  
 pia Tox., *Prosotas*, 94  
 plumbata Druce, *Nacaduba astarte* ssp., 77  
 plumbeomicans (Wood-Mason & Nicev.),  
*Nacaduba berenice* ssp., 78  
*poecilia* (Holland), *Erysichton palmyra* syn.,  
 103  
 procella ssp. n., *Catopyrops ancyra* ssp., 106  
 prominens (Moore), *Nacaduba kurava* ssp., 80  
 PROSOTAS Druce, 88  
 proxima (Rothschild), *Paraduba metriodes*  
 ssp., 99  
*pseustis* (Doherty), *Catopyrops ancyra almora*  
 syn., 105

- raluana Ribbe, *Nacaduba pactolus* ssp., 72  
 rapara Fruhst., *Nacaduba berenice* ssp., 78  
 rita (Grose-Smith), *Catopyrops*, 107  
*roepkei* Tox., *Prosotas subardates* syn., 96  
 rothschildi Tox., *Nacaduba kurava* ssp., 82  
*rothschildi* (Tox.), *Nacaduba cajetani* syn., 79  
 ruficirca sp. n., *Nacaduba*, 85  
 russelli sp. n., *Nacaduba*, 72
- sambalanga nom. n., *Nacaduba kurava* ssp.,  
 81  
 samoensis Druce, *Nacaduba*, 87  
 sanaya Fruhst., *Nacaduba*, 73  
 sangira Fruhst., *Nacaduba angusta* ssp., 71  
 saturator Rothschild, *Prosotas gracilis* ssp., 96  
 semperi (Fruhst.), *Prosotas nora* ssp., 92  
 septentrionalis Shirozu, *Nacaduba kurava*  
 ssp., 81  
 sericina (Felder), *Nacaduba*, 70  
 sidoma Fruhst., *Nacaduba hermus* ssp., 73  
 sinhala Ormiston, *Nacaduba*, 79  
 singapura Corbet, *Nacaduba pavana* ssp., 72  
 sivoka (Evans), *Prosotas lutea* ssp., 97  
 siwiensis sp. n., *Paraduba*, 100  
*smaragdina* Semper, *Nacaduba sericina* syn.,  
 70  
 solta Eliot, *Nacaduba*, 75  
 subardates (Piepers & Snellen), *Prosotas*  
*dubiosa* ssp., 96  
*subdubiosa* (Rothschild), *Petrelaea dana* syn.,  
 109  
 subfestivus (Röber), *Catopyrops ancyræ* ssp.,  
 106  
 subperusia (Snellen), *Nacaduba*, 73  
*subvariegata* (Rothschild), *Erysichton palmyra*  
*coelia* syn., 104  
 sumbawa sp. n., *Nacaduba*, 80  
 superdates (Fruhst.), *Prosotas nora* ssp., 92  
 swatipa Corbet, *Nacaduba hermus* ssp., 73  
*syriæ* Fruhst., *Nacaduba kurava parma* syn.,  
 81
- tairea Fruhst., *Nacaduba hermus* ssp., 73  
 talesea sp. n., *Prosotas*, 93  
 tasmanicus (Miskin), *Erysichton palmyra*  
 ssp., 103  
*thadmor* (Fruhst.), *Erysichton lineata mei-*  
*ranganus* syn., 102  
*thalia* Corbet, *Nacaduba sanaya elioti* syn., 73  
 thaumus Fruhst., *Nacaduba sericina* ssp., 70  
 therasia Fruhst., *Nacaduba kurava* ssp., 81  
 thespia Fruhst., *Nacaduba angusta* ssp., 71  
*tombugensis* (Röber), *Petrelaea dana* syn., 109  
*topa* (Evans), *Prosotas noreia* syn., 97  
*toxopeusi* Corbet, *Nacaduba calauria* syn., 86  
 tristis Rothschild, *Nacaduba*, 86  
 tuala Tox., *Catopyrops ancyræ* ssp., 106
- ugiensis Druce, *Nacaduba*, 78  
 uluensis (Ribbe), *Erysichton lineata* ssp., 103  
*unicolor* (Röber), *Ionolyce helicon* syn., 101
- vajuva Fruhst., *Nacaduba pavana* ssp., 72  
*valentina* Grose Smith, *Erysichton palmyra*  
 syn., 103  
 valvidens Tox., *Nacaduba hermus* ssp., 73  
*vaneckeï* (Fruhst.), *Erysichton lineata mei-*  
*ranganus* syn., 102  
*vanheurni* (van Eecke), *Catopyrops ancyræ*  
*mycia* syn., 106  
*varia* Tox., *Petrelaea dana* syn., 109  
*varia* Evans, *Nacaduba pactolus macroph-*  
*thalma* syn., 71  
 vicania Corbet, *Nacaduba hermus* ssp., 73  
 vincula (Druce), *Erysichton lineata* ssp., 103  
 viola (Moore), *Ionolyce helicon* ssp., 100  
 visuna Fruhst., *Nacaduba pavana* ssp., 72  
*vitiensis* (Butler), *Nacaduba dyopa* syn., 86  
 vulcana sp. n., *Nacaduba novaehbridensis*  
 ssp., 79
- waigeuensis (Joicey & Talbot), *Nacaduba*  
*pactolus* ssp., 72
- zygidia Fruhst., *Nacaduba berenice* ssp., 78  
 zyrrhis Fruhst., *Nacaduba berenice* ssp., 78

